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THE EMPYEMA PROBLEM.

William Francis Campbell, M. D., F. A. C. S.

Brooklyn, New York.

ONE of the beneficient by-products of the war is the vast amount of clinical material afforded for the study of the empyema problem. The epidemics with their high mortality occurring during the winter of 1917-1918 stimulated an unusual interst in this problem, and we predicted that the old operation of thoracotomy for drainage of the pleural cavity would be superceded by newer and more rational methods. When one is confronted by a mortality of 50% there is a significant challenge to the old procedures and an unmistakable urge for something more efficient.

The critics of the operation of thoracotomy claimed that while it met the indications of drainage for a pus cavity, it had several vital objections when applied to the pleural cavity; First: a major operation upon a patient whose vital processes are seriously impaired; and one often followed by shock and death.

Second: While it fulfills the indications for drainage, it ignores the simple physical principle that negative pressure must be maintained within the thoracic cavity to insure a functionating lung. Thus while thoracotomy drained, it abolished negative pressure and was followed by a collapsed lung: This was a serious compromise of respiratory function, and in cases of pneumonic involvement of the opposite lung considerably reduced the chances of recovery. Besides, the large opening with its profuse discharge required an immense amount of gauze dressing and was a source of secondary infection, and the pressure of the drainage tube was often followed by necrosis of the rib.

But most serious of all was the possibility of the collapsed lung becoming imprisoned by adhesions and thickened pleura, and the inauguration of a state of chronic empyema which required the serious and deforming operations of Schede, Estlander, or Delorme for its amelioration.

It was therefore natural that every suggestion that sought to improve the operative treatment of empyema so as to make the operation itself less complicated and free from shock, should be looked upon with favor. And so it came to pass that reports of new procedures became increasingly prevalent, and much ingenuity was displayed in the invention of apparatus and paraphernalia that had as its basic idea the drainage of the pleural cavity under negative pressure.

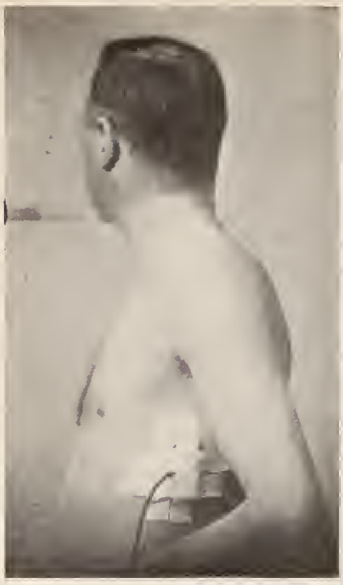

Fig. 1. "Walter Reed" technique drainage tube held in place by adhesive strips.

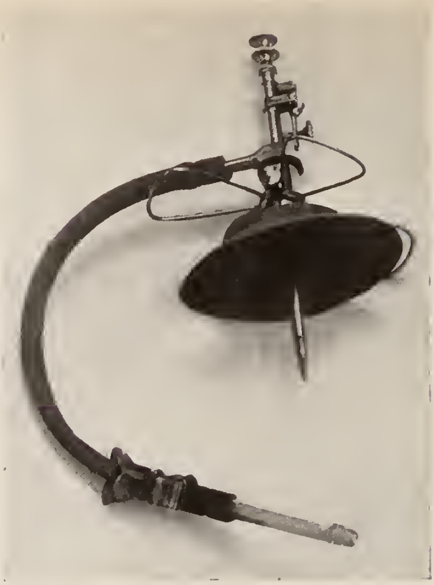

Fig. 2. Philips apparatus for draining Empyema cavity.

The simplest of these procedures was first employed in the Walter Reed Hosptial, Washington, D. C. Captain Mozingo (Jour. A. M. A.-Dec. 21, '18.) first described this technique as consisting of a diagnostic puncture; location of the empyema

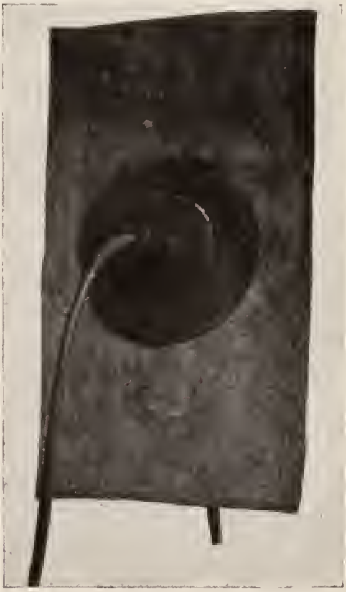

Fig. 3. "Harloe" Rubber Shield for draining Empyema cavity.

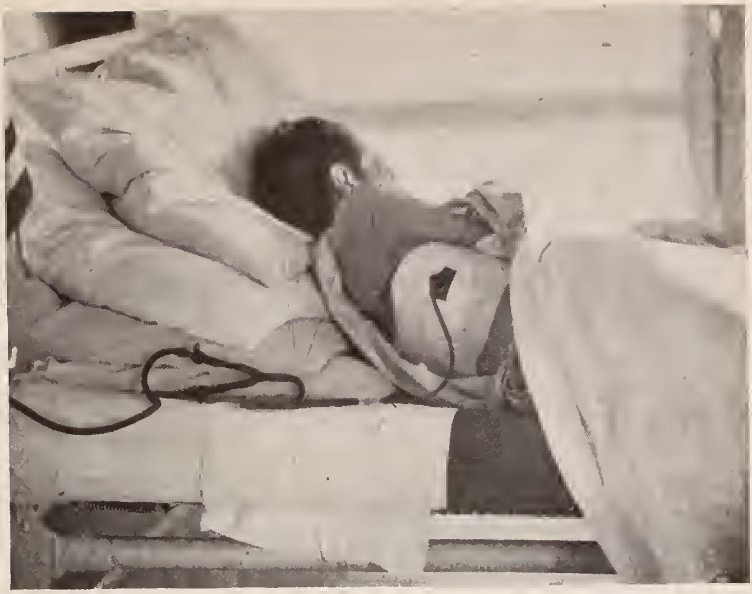

Fig. 4. Long Island College Hospital Empyema dressing complete and connected with aspiration and irrigation tube.

cavity by physical examination and roentgen ray; local anaesthesia of an intercostal point selected for drainage; small incision of skin with knife, and then intercostal puncture of thoracic wall with 7 mm. trocar and canula. As the trocar is withdrawn the finger is placed over the end of the canula to prevent pus from escaping or air from entering.

Through the canula a rubber tube closed by clamp is inserted into the chest cavity and the canula withdrawn and slipped off the tube, leaving the tube air tight, and firmly held by the contracting soft parts of the wound.

Even without a trocar and canula this procedure can be accomplished by a small stab wound of the skin and the rubber tube carried into the pleural cavity by means of a curved hemostat. The tube is held in place by a safety pin with a thin pad of gauze next to the skin, and a similar pad on top the pin, all held in place by strips of adhesive plaster. (Fig. No. 1) The pus is aspirated through the tube by a bulb urethral syringe and the cavity in a similar manner washed out with Dakin's solution until the fluid comes away clear—care being taken that no air enters the pleural cavity during the procedure, and the tube is closed during the intervals by a spring-clip. After the operation, treatments are given every two hours by day and every three hours by night, until all the pyogenic exudate has been dissolved.

This simple technique is the basis of all the procedures that aim to drain the pleural cavity and at the same time maintain negative pressure; all others are merely modifications or elaborations.

We were satisfied with the simplicity of this method. It implied a minor operation devoid of shock. Patients were perfectly comfortable and could walk about without disturbing the dressing, the antiseptic solution was easily applied; but negative pressure was not maintained. After a few days the tissues about the tube retracted, allowing the air to enter and the fluid to escape.

A more complicated apparatus was that designed by Lieut. H. B. Philips (Surg. Gynec. and Obst., Feb. 1917.) This apparatus is ingenious and is designed to drain the pleural cavity while maintaining negative pressure.

It consists essentially of a trocar-canula surrounded by a rubber suction cup so that an absolutely air-tight connection is made with the pleural sac. (Fig. No. 2) Our experience with this apparatus was disappointing. It undoubtedly drains the pleural cavity under negative pressure, but it is expensive, complicated and causes the patient pain and discomfort. In the case in which this apparatus was applied the patient begged to have the apparatus removed because of the great discomfort which it caused. While it drains under negative pressure it does not permit of irrigation for dissolving the pyogenic exudate.

The defects in both of these procedures were fully demonstrated in the Surgical Department, Long Island College Hospital, and it stimulated the natural inquiry as to whether it was practical to combine in a single procedure the merits of both, so that with a minor operation satisfactory drainage under negative pressure would be the result achieved. The solution of this problem was placed under the direction of Dr. Ralph F. Harloe and Dr. J. Sherman Wight, and it is due to their combined suggestions and ingenuity that the following technique was finally perfected.

After the presence of the pus cavity is demonstrated by radiogram and aspiration, and the skin anaesthetized with a one-half per cent novocain solution, a trocal and canula is inserted through the selected intercostal space, the trocar withdrawn and a number eighteen French catheter threaded through the canula and the canula withdrawn, leaving the catheter in place. All this is accomplished without permitting air to enter the thoracic cavity. It will be noted that up to this point the technique is a duplication of the "Walter Reed method" previously described. The next step in the technique was designed to prevent air from passing into the thorax between the tube and tissues. To accomplish this a specially designed rubber cap was devised (Fig. 3) which was fastened to the skin by means of a thick waterproof aseptic cement made by evaporating compound tincture of benzoin to a syrupy consistency. After applying the cement to the skin and the under surface of the rubber cap the thoracic tube is pulled through the cylinder of the support by means of a clamp and the whole pressed tightly to the body. When the cap is firmly adherent the cap is covered by a piece of rubber tissue 5 x 7 which is also attached by means of the cement. This tissue is put on the stretch and held in place by two-inch strips of adhesive plaster which has been passed around from the opposite side of the body, and the whole covered by a firm bandage. (Fig. 4) The pus is aspirated into a vacuum bottle and the cavity irrigated with Dakin's solution. This aspiration and irrigation is continued until the returning fluid from the pleural cavity is clear, and the procedure repeated every two hours during the day and every four hours during the night.

The advantages of the method were:

First: No collapse of the lung, hence no loss of function—an important consideration in an associated pneumonia of the opposite side.

Second: No deformity of the chest or spine as is often seen following rib resection,

Third: No soiled or wet dressings to add to the discomfort of the patient.

Comments: With the exigencies of a war-epidemic of empyema many experiments were placed on trial; they were born of an enthusiastic endeavor to solve a trying problem. In no way do we detract from our appreciation of this sincere and ingenious effort to improve the operative technique of empyema, but from our experience we are forced to conclude that they have only served to enhance the value of sound surgery and fundamental principles.

Dakin's solution in the treatment of empyema has overreached the mark, for while at first it dissolves inflammatory exudate and thus should hasten lung expansion, *its continued use* in the thoracic cavity produces the formation of a thick exudate which is apt to bind down a collapsed lung and inaugurate a chronic process.

The pre-war treatment of empyema by thoracotomy evolved through many years of experience has not been shaken by any of the fads and fancies developed during the war.

Nevertheless through our war experience we have progressed in a finer appreciation of the indications for operation; and our mortality will show an appreciable reduction as we regard the conclusions of the Empyema Commission: Aspiration only until 1st., there is absence of pneumonia; 2nd., presence of frank pus; 3rd., a walled off cavity to protect the mediastinum and the opposite lung from the evil effects of an open pneumothorax.

(For discussion see page 50)

PROSTATIC SURGERY.

Arthur H. Bogart, M. D., F. A. C. S.

Brooklyn, New York.

THE development of the surgery of the prostrate gland covers a period of about twenty years. Previous to that time, patients suffering from prostatic obstruction were instructed to take up a catheter life and were informed that nothing could be done for them in a surgical way. During this period, however, various operative procedures for the relief of these patients were devised and practiced from time to time, among which may be mentioned vasectomy, castration and the Bottini operation, the object of the two former procedures being to produce atrophy of the gland and of the latter to burn a passage through it and thus relieve the obstruction. Each of these operations claimed a certain degree of popularity for a time, but they were finally abandoned when it was realized that nothing short of complete removal of the gland would effect a cure. Moreover, it was found that the mortality following the Bottini operation was fully as great as that following prostatectomy, and that the mortality in most cases was due to infection.

When it had been conceded that the only practical method of relief was through the complete removal of the gland, the profession became divided into two schools, one school advocating the suprapubic and the other the perineal route. It is not our purpose at this time to discuss the advantages or disadvantages of either of these operations. It would seem, however, that the suprapubic operation, done in two stages, is the one of choice with most operators today.

The writer has been in a position to observe the gradual development of prostatic surgery almost from the beginning.

In the beginning the results from prostatectomy were not all that could be wished, but as a result of the persistent efforts of those especially interested in this work, prostatic surgery has developed to such an extent that it is recognized as one of the greatest achievements of modern surgery.

In the course of time it became our duty (in connection with our other work) to assume the responsibility of some of these cases. We have removed the prostate both by the perineal and by the suprapubic route and have obtained excellent results with both methods.

Before taking up the subject of hypertrophied prostate, it may not be amiss for the writer to briefly review the anatomy of the normal gland.

Gray says that "the prostate gland is a pale, firm, partially glandular and partially muscular body, placed immediately below the neck of the bladder and about the commencement of the urethra in the male.

"The gland does not completely surround the first portion of the urethra, but the complete ring is formed by the prostatic muscle which is continuous with the compressor urethrae muscle.

"The sheath of the prostate is derived from the recto-vesical fascia. The veins lie in the layers of the sheath and are separated from the prostatic capsule proper by a layer of this sheath.

"Within the prostatic sheath is the true or proper capsule of the prostate. The true capsule is a continuous investment from the entrance of the urethra to the triangular ligament below.

"The arteries supplying the prostate are derived from the internal pudic, inferior vesical and middle hemorrhoidal.

"The veins form a plexus around the sides and base of the gland between the layers of the fascial sheath. They receive the dorsal vein of the penis and terminate in the internal iliac vein.

"The nerves are derived from the hypogastric plexus. Normally the prostate is extravesical."

Many theories have been advanced concerning the pathology of prostatic obstruction. In general, three forms are recognized—the glandular, fibromuscular, and inflammatory, to which we shall add, for the purposes of this paper, those cases due to malignant growths, which constitute, according to Young, from 15 to 25 per cent of the whole.

After a study of 100 cases of enucleated prostates, Young came to the following conclusions regarding the pathology:

"Prostatic hypertrophy is of neoplastic nature, and in most cases of an adenomatous or fibromyoadenomatous form. Pure myomata and fibromata are occasionally seen. The characteristic lesion of the hypertrophy is the formation of spheroidal tumors which arise in the central group of glands. The primary activity is in the epithelium of the acini. Chronic prostatitis may produce obstruction similar to true hypertrophy, but does not lead to a true hypertrophy of the gland. Cancer rarely begins as a benign hypertrophy."

It is the gradual development of these spheroidal growths within the gland substance which produces the enlargement and consequent obstruction. These growths develop for the most part along the sides of the urethra, and by their encroachment upon it cause distortion in many forms. The two lateral and the median lobes are the ones most frequently involved. When the growth extends into the bladder, the vesical sphincter is pushed aside, as it were, and is outside of the growth."

The diagnosis of prostatic obstruction requires no special skill on the part of the physician, provided a reasonable amount of care is taken in getting the history and in making the examination. This condition occurs in most cases in patients past fifty, who first complain of frequency of urination and difficulty in starting the stream. The symptoms are usually most marked at night and are probably due to congestion due to the recumbent position. With such a history, an examination of the prostate should be made. Usually, the gland will be found enlarged and projecting into the rectum. In other cases the enlargement may be into the bladder, in the form of a middle lobe. The diagnosis in such cases must necessarily depend upon the use of the cystoscope. By rectal examination we may determine whether we are dealing with a glandular hypertrophy, a fibrous one, or, in some cases, with an obstruction due to the presence of malignant disease. In the first instance one would expect to find the gland very much enlarged and soft to the feel; in the second, it should not appear so large, and should be firm in consistence. In cases of malignancy the nodular feel of the gland would lead one to suspect its true nature. Moreover, cancer is more likely to be found in patients under 60 years of age, and when the symptoms have been rapid in onset, covering a period of little more than one year. In other words, patients with long histories of frequency of urination, etc., are the least likely to have cancer of the prostate. A positive diagnosis of cancer of the prostate, however, is seldom made, particularly in the early stages of the disease, without the use of the microscope.

Many surgeons are opposed to the use of the cystoscope for diagnostic purposes in these cases, because of the danger of too frequent instrumentation causing infection or of adding to an already-existing one. We feel that any unnecessary traumatism is to be avoided, particularly in cases with fever and which show signs of infection. As a matter of fact, we have considered this a diagnostic procedure hardly necessary, for the reason that all or most of the information to be obtained can be secured by the preliminary operatiion of cystotomy.

By the use of the catheter it is possible to determine the degree of obstruction and the amount of residual urine which are present.

Residual urine marks the second stage of the condition and the appearance of bladder insufficiency, in which the bladder is unable to overcome the obstruction to a sufficient degree to completely empty itself, which it is usually able to do in the first stage of the disease.

Before introducing the catheter the patient should be instructed to empty the bladder as completely as possible, and it goes without saying that all catheterizations should be done with the greatest care in order to avoid infection, for what has already been said with respect to the use of the cystoscope applies with equal force to the question of catherization. The fact that a patient has been catheterizing himself for a period of ten or more years with an unsterilized instrument and saliva as a lubricant should by no means warrant the physician in relaxing his efforts in the least to avoid infection if it does not already exist.

Examination of the catherized urine aids as an index of the stage to which the condition has progressed with regard to the question of infection and the probable amount of bladder, ureter and kidney involvement due to back pressure.

The second stage, or period of retention, may last for a considerable time, until finally it becomes almost complete: the bladder becomes enormously distended and there is an involuntary escape of urine from time to time, due to relaxation of the sphincter muscle of the overdistended bladder.

If relief be not obtained at this time the patient passes into the third, or terminal stage of chronic prostatits, the result of overdistension of the bladder and back pressure on the ureters and kidneys.

In this stage the bladder may, and frequently does, hold two or even three pints of urine, palpation shows the presence of a fluctuating tumor above the pubis, and the patient complains of dribbling of urine, but maintains that he is still able to pass his water, but this is, in reality, nothing more than the overflow.

The constant distension of the bladder is sooner or later followed by constitutional disturbances and at this period the back pressure from the bladder results in the filling of the pelves of the kidneys with a quantity of stagnating urine, to which microorganisms are added, with the consequent setting up of an inflammation in the tubules and parenchyma of the kidneys.

When the inflammatory conditions have reached this point there is beginning absorption of toxic material from the kidneys and the bladder which should be eliminated by the kidneys were they in condition of functionate properly.

As a result of the absorption of these poisons, which are normally eliminated, digestive disturbances ensue, with emaciation, slight fever, a dry, coated tongue and a drowsy mental condition, which is recognized as urosepsis.

It is in this condition, with acute retention added, that many patients come for relief. Nevertheless, if one has a proper conception of the condition with which he is dealing, the outlook may not be so bad even in these cases.

The general practitioner who first sees the case of prostatic hypertrophy, with retention, should recognize the fact that upon him, to a considerable extent, the final result depends, and he should govern himself accordingly. It is hardly fair to charge surgery with all the blame for failure in cases which have been improperly managed from the start. It devolves upon the family physician to meet what seems to the writer to be perhaps the greatest emergency in these cases, namely, the period of acute retention. With this stage of the condition safely passed over and the patient made comfortable, one is in position to take stock and size up the situation, as it were, and determine what shall be the future course of treatment of the case.

Given, then, a case of prostatic hypertrophy with obstructive symptoms, what is the best advice to give the patient with our present knowledge of this disease? Shall he be advised to take up a catheter life, or submit to an operation with the hope of achieving a permanent cure? In other words, the question is, what are his chances with operation and without operation?

The writer shall not attempt to answer these questions but shall quote from a paper by Squier on "The Vital Statistics of Prostatectomy." The conclusions which he drew from a study of the question were that: "Fifty per cent of unoperated cases will die within five years from the onset of obstructive symptoms where catheter life is not necessary. The beginning of catheter life shortens this expectation of life almost 50 per cent (two years and eight months) and increases the mortality to 66⅔ per cent within the shortened period."

The average length of life of carcinoma cases in this study made by Squier was thirteen months from the onset of symptoms when not subjected to operation.

Of 10 cases of carcinoma operated upon in this series, the average duration of life was two years; and one patient lived for a period of five years.

Recurrence was the rule in all cases, but operation was attended with a sufficient amount of comfort to the patient in each case as to make it justifiable.

Of 100 patients operated upon for benign hypertrophy, 87 were alive and completely relieved from obstructive symptoms, at periods ranging from one to four years.

Morton, in 1914, made the following statement: "The mortality today of all cases of prostatectomy in a large hospital where one has to take everything that comes, many of them being cases treated on the outside, or neglected and sent in to die, as well as those which we are able to select and operate before going into the second or third stages, is about 10 per cent. In the selected cases the mortality rate is very much lower and may fairly be estimated at 5 per cent. It must be considered that we are not operating on young and vigorous subjects, but on old and feeble men."

Other surgeons have been able to report long series of cases operated upon with a much lower mortality than those which have been quoted. For example, Young, in 1908, gave his mortality as 2-8/10 per cent. Few, however, have attained the same degree of efficiency that he has.

From what the writer has been able to gather from the writings of others and from his own experience, it would seem that it can be stated with reasonable certainty that the average prostatic has about ninety chances of recovery from operation with the expectation of permanent relief from obstructive symptoms, provided the surgeon has mastered the fundamental principles involved and is prepared to carry them into execution.

It has gradually come to be recognized that, in order to obtain the best results, a period of preliminary treatment is necessary in most cases to restore the patient to the best physical condition possible before undertaking the major operation of removing the gland. It, therefore, follows that prostatectomy should not be considered as an emergency operation. At least, this is the position which is now taken by the most successful operators and the one which we have adopted, with the result that our success has been much greater than it was before we accepted this view.

The average prostatic by the time he reaches the hospital cannot, as a rule, be considered a good surgical risk. He is probably suffering with arterio-sclerosis, emphysema or cardiac disease, and, usually, there is more or less involvement of the kidneys present. The outlook for the successful outcome of any operation when conditions such as these obtain cannot be considered brilliant, and, therefore, the question at once arises, can these conditions be improved sufficiently to render the operative procedure successful? The consensus of opinion is that they can be improved to an extent sufficient to make the operation much less dangerous.

When called to see a case of acute retention, the average physician will probably first have recourse to the use of the catheter, to be followed, if unsuccessful, by aspiration of the bladder above the pubes. In the passing of a catheter in these cases it should be distinctly remembered that the tissues under the conditions which obtain at this time are extremely soft and friable and that if too much force be applied in the wrong direction, it is most likely to result in a false passage with disastrous results, for when the element of infection is added to the already-existing grave condition, the final result, as we have good reason to know, is frequently serious. The writer is constrained to make this observation because of the fact that in about one-half of the cases on arriving at the hospital the patients show evidence of too vigorous attempts at catheterization. In fact, the writer is in doubt if it is good judgment to use a metal catheter in any of these cases except with the utmost caution. He would much rather instruct his house surgeon to aspirate the bladder in any case in which he failed to catheterize a patient than to order him to use a metal catheter, for the reason that he believes less damage is likely to result. Many good surgeons advise the use of a moderate sized trocar which may be thrust into the the bladder above the pubes, either with or without local anesthesia, as the case demands. The trocar having been introduced into the bladder, a small catheter may be passed through it and the trocar withdrawn, thus providing permanent drainage and obviating the necessity of repeated aspirations.

Another danger which should be avoided at this time, and which is well recognized by all urologists, is that of completely emptying the bladder at one sitting. This applies especially to those cases where there is a considerable amount of residual urine present and where the patient has not been in the habit of using a catheter. It is claimed that the immediate result of withdrawing all the urine at one sitting, in many cases, is to throw the kidneys into a state of acute congestion, and if they are already partially disabled, the sudden change may bring on an acute nephritis and anuria. For this reason, it is the practice of many urologists in cases of this kind to empty the bladder gradually so that after the course of several days the bladder is completely emptied of the residual urine.

Personally, the writer has not seen any disastrous results from the complete emptying of the bladder at one sitting. Nevertheless, the danger is undoubtedly a real one and should be avoided whenever possible.

It may be that, within a reasonable time after catheterization, the congestion may subside sufficiently to allow the patient to pass his urine and to continue to do so for some time, but this is the exception and should not be depended upon. If the patient has been in the habit of catheterizing himself, he may be able to do so after the attack has passed. Or, if he is unable to catheterize himself, shall the physician continue to do it for him from time to time in the hope that the condition may clear up to an extent such as to enable the patient to take care of himself? Even this may happen, but would it be advisable to follow this plan? Probably not, if the statistics which have been quoted are correct and are to be taken as a criterion.

This brings us to the subject of operative treatment, which apparently offers the best hope of permanent relief.

There are three well recognized methods of attacking an hypertrophied prostate today—First, the operation of Young, in which he is able to expose the gland and remove it by the guidance of sight; second, the blind enucleation by the perineal route; and, third, the suprapubic operation done in two stages, which, as has been stated, is perhaps the most popular procedure at the present time.

It would seem, however, that, in Young's hands, his is the ideal method, and yet it has not been widely adopted, probably because few have been able to master the details of the operation as thoroughly as he. This holds true of many operations: the originator seems to be able to obtain better results than those who attempt to follow in his footsteps.

Perhaps one-third of the cases which have been operated upon by the writer have been done by the perineal route, without exposure of the gland, entire dependence being placed upon the sense of touch for guidance. This has always been found to be a comparatively simple procedure, particularly where one is dealing with the adenomatous type of gland, most of which can be enucleated in five or ten minutes' time; and were it not for certain complications, he would prefer to use this method as a routine procedure, provided it were possible to satisfactorily carry out the preliminary treatment in these cases.

One of the most serious complications following perineal prostatectomy is hemorrhage, which sometimes follows any operation for the removal of the prostate, as any one who has had much experience with this line of work will testify. In the perineal cases, after removal of the gland, a drainage tube is inserted into the bladder and gauze packed around it to control hemorrhage, of which there is always more or less. Unfortunately, however, this is not always successful, for the reason that, in packing the cavity, one finds little resistance above to pack against, and frequently hemorrhage takes place into the bladder, which becomes filled with clots. This causes a great deal of pain and trouble; and if the hemorrhage is not controlled it sometimes causes the death of the patient. Incontinence of urine also follows the perineal operation in some cases. It is claimed, however, that this condition should not occur if the operation is properly done; that is, without laceration of the neck of the bladder. The writer has had one case in his experience in which incontinence occurred, but not to any great extent.

Again, in the perineal operation, one may overlook the presence of a stone in the bladder, or fail to remove a median lobe, which may be the chief cause of the trouble. If one is able to introduce the finger and sweep it around the neck of the bladder, there should be very little danger of overlooking anything of this character.

The perineal operation certainly has some advantages, among which might be mentioned its simplicity, the better drainage which is possible with this method, and, perhaps, the greater comfort experienced by the patient. Moreover, it is claimed by those who use it that the mortality is much less than by the suprapubic route; and were it not for the uncertainty concerning hemorrhage, we would be inclined to use it more frequently. No surgeon has any excuse in these days for losing a patient from hemorrhage, unless he unwittingly operates upon a bleeder, and, for this reason principally, we prefer to use the other route where there is more certainty of obtaining complete hemostasis by means which shall be mentioned later.

The plan that we have adopted in treating these cases after admission to the service, which is based partially upon our knowledge, as acquired by reading the literature on the subject and partially as the result of experience, may be briefly outlined as follows:

If the patient has been traumatized by attempts at catheterization on the outside, we rarely attempt anything further in that direction, but proceed to a suprapubic cystotomy at once, sometimes with and sometimes without the use of a general anesthetic, depending upon the condition and the temperament of the patient. Frequently we do the complete operation with local anesthesia; at other times a moderate amount of anesthetic is necessary. The choice of the anesthetic depends upon the anesthetist rather than upon the anesthetic. In the hands of a good anesthetist gas-oxygen is ideal, but if the anesthetic is given by an amateur we prefer ether by the drop method because we feel that it is much safer.

In doing this preliminary operation it is important that the peritoneum should be wiped back from the bladder and the opening made as far from the urethra as possible for the reason that it is found that wounds of the bladder in this region heal much more rapidly than those placed lower down. The bladder having been opened, one may explore and remove stones if they be present.

The next step consists in providing for drainage. Every one who has had experience well knows that a suprapubic wound, unless drainage can be controlled, is a very disagreeable proposition, not only from the standpoint of the patient, but also from the standpoint of those who are to take care of him. Moreover, he is liable to be neglected and to be found lying in a wet bed for a considerable part of the time; and this, sooner or later, is certain to result in a sore back, to say nothing of the more serious complications which may result.

We, therefore, try to make these patients as independent as possible by the use of the Pezzer catheter, which is placed in the bladder and secured by a purse-string suture of chromic gut. The other layers of fascia and skin are accurately sutured around this until we have a water-tight drainage tube, which may be connected to a bottle by the side of the bed. In this way it is possible to keep the patient dry and comfortable during the period between this and the next, or major, operation of removing the gland. During this interval, which lasts anywhere from ten days to two weeks or more, every effort is made to build up the patient and get him in as good a condition as possible. He is made to drink plenty of water (eight ounces every two hours) and is given such other attention as may be indicated. In the meantime, the renal output is watched and the efficiency of the kidneys tested.

It not infrequently happens that the reaction from this first and comparatively simple operation is greater than that following the actual removal of the gland, thus showing that by this preliminary period of treatment we are able to raise the resistance of the patient.

One of the complications of prostatectomy, as we have seen it, has been sloughing of the suprapubic wound, due to infection, probably the result of being bathed continually with foul urine. This condition is much less frequently seen when we have been able to close the wound and obtain proper drainage. Moreover, when the wound is re-opened for the purpose of removing the gland, the granulation tissue which has formed is much more resistant to sloughing and infection than if it were a recent wound, so that the preliminary operation done after the method described is another safeguard against infection.

In a short time after the preliminary operation one is able to tell quite accurately whether or not the patient will be able to stand the next operation. If there is a favorable reaction following the preliminary operation within the course of three or four days, it is reasonable to assume that in due course the patient will be in condition to withstand the operation of removing the gland.

The technic of suprapubic prostatectomy varies with different operators. For instance, Crile and Lower insist upon the use of scopolamin and morphin, infiltration of the tissues, including the neck of the bladder and prostate, with novocain solution, gas-oxygen anesthesia and other characteristic refinements, and conclude by saying that "At the close of the operation the color of the patient will be good, the pulse and respiration will not be increased; in fact, may be lower than before the operation. The patient will rest comfortable, will be free from nausea and mucus, can take water early and an uninterrupted convalescence may be looked for." But all of this may be said of any prostatectomy, provided the patient is a reasonably good subject, has been properly prepared, has good anesthesia, and the operation is not prolonged and the patient not allowed to bleed.

Other men ignore entirely the rules laid down by Crile and Lower and describe, with great detail, their method of enucleating the prostate, not forgetting to mention the deftness with which they are able to introduce the finger between the true and the false capsule, thus avoiding the plexus of veins and subsequent hemorrhage, whereas in reality after the finger has broken through the mucous membrane, it naturally falls into a line of cleavage which it is not easy to avoid, and some of them bleed and some do not.

While on the subject of hemorrhage it may be of interest to state that for a time nothing was said by anybody on the question of hemorrhage, but, sooner or later, articles dealing with the various methods of checking hemorrhage following prostatectomy began to appear, indicating that there were at least a few who lacked the necessary skill to avoid the venous plexus.

Some cases of prostatectomy do bleed and it is important that the bleeding be checked before the patient leaves the table or the result may be disastrous. Fortunately, we now have at our disposal methods whereby bleeding may be effectually controlled.

The operation of prostatectomy is a blind procedure, except when it is done after the method of Young. It depends exclusively upon the sense of touch. With the patient anesthetized by any method of choice (depending upon the anesthetist rather than upon the anesthetic),and with the usual preparation which should include irrigation of the rectum, the left thigh is flexed and the index finger of the left hand introduced into the rectum, in order to steady the prostate and push it up into the bladder, where it may be more readily reached by the forefinger of the right hand, which is introduced through the suprapubic wound. Care should be taken to insert the forefinger sufficiently far within the urethra to avoid possible injury, to the internal sphincter and the neck of the bladder, in this position it breaks through the mucous membrane of the roof of the urethra and soon enters the point of cleavage between the two capsules. Personally, the writer has been able to find but one such point, and that without difficulty. The finger is then carried around from side to side and the gland shelled out, sometimes in one piece, but more often in several pieces. If there are any stones present they are removed. The next step consists in cleaning the bladder of clots and checking hemorrhage. In our earlier cases we used packing for this purpose, but were never satsified with it, for the reason that it frequently failed to check the bleeding and because we felt that it led to infection and it was at times difficult to remove the packing. We now use the Hagner bag for the control of bleeding with great satisfaction. In order to introduce the bag a sound is passed through the urethra and its beak brought out of the suprapubic wound, and the tube of the bag is then slipped over it. The sound is then withdrawn and the bag brought down into the cavity from which the prostate has been removed. It is then inflated and traction made upon it sufficiently to check the hemorrhage. The traction is maintained by fastening the tube of the bag to the thigh by adhesive straps. This pressure of the bag is usually continued for a period of twenty-four hours. At the end of this time it is deflated and allowed to remain in the bladder for another twenty-four hours before it is finally removed. The purpose of this is to check any further bleeding which might take place, but this is the exception rather than the rule.

In addition to checking bleeding, the bag draws down the neck of the bladder into the cavity which is left after the prostate is removed. It also serves to approximate the two ends of the severed urethra and in this way healing of the parts is promoted.

After being certain that the bleeding has been checked, the bladder is again washed out so as to free it from any clots which have formed. After this has been done the piece of stout silk which had been attached to the base of the bag for the purpose of removing it, is brought out through the suprapubic wound. A Pezzer catheter is then introduced and the suprapubic wound, including the bladder, is closed round it as closely as possible. This allows sufficient room for the removal of the bag, and it is astonishing to note how little room this requires. Two sutures of silkworm gut are then added, to be used as described later.

This completes the operation. The actual removal of the gland consumes from five to ten minutes; the introduction of the bag, checking hemorrhage and closing the suprapubic wound consumes perhaps fifteen minutes more. Some cases show very little signs of hemorrhage at the conclusion of the operation, but it is our routine to always insert the bag for the reason that some cases bleed later.

If the operation is performed with a reasonable amount of dexterity, the shock will not be great and the condition of the patient will be quite as good at the termination of the operation as it was at the beginning. Whatever may happen to the patient will make its appearance later, and not at the time of operation. It should, however, always be borne in mind that there is but one throw of the dice in these cases and the indications are to remove the gland, check the hemorrhage and avoid infection. It is a bad thing to find it necessary to return a patient to the operating room and give him a second anesthetic to stop the bleeding. It may be the means of turning the scale against him.

At the end of forty-eight hours the bag is removed and the Pezzer catheter again introduced. The two silkworm sutures mentioned above are tied about it. This prevents leakage and thus serves to keep the patient practically dry while he remains in bed, or up to the time the catheter is removed, a period of about ten days. In this way the patient is rendered practically independent of the attentions of orderlies. This has been one of the objects which we have aimed at, and the writer believes it has contributed very much to the success which has attended cases which have recently come under our care.

It is of the greatest importance that the surgeon should personally take the pains to follow up and direct all the dressings and after-treatment of these patients. It should be remembered that these are orderly cases and that however efficient the nursing staff may be the tendency is to avoid this character of work as much as possible. So that, in order to attain the best results, it behooves the surgeon to accord this class of cases his personal attention.

On an average the patient begins to urinate at the end of about ten days. There is very little urine passed at first, but the quantity gradually increases, until at the end of about three weeks' time the patient is able to pass his urine freely, the suprapubic wound closes and no instrumentation is used, nor is there necessity for any. Stricture does not develop in these cases.

The after-treatment is of the utmost importance. The patient should be encouraged to drink large quantities of water. This is one of the first things overlooked by the nurses and by the house staff. An order will be written "Nothing by mouth;" and this will hold good for at least twenty-four hours unless it is discovered and corrected. It is a frequent occurrence to find the patients in these and other cases with a dry and parched tongue begging for water; and there is absolutely no reason why they should not have it except the order "Nothing by mouth."

It is our practice to get the patient up on a back rest as soon as possible. This is easily done if drainage has been provided for as already outlined. In fact, the patient may be gotten out of bed with the end of the drainage tube placed in a bottle which is attached to the leg of the patient.

Following the removal of the drainage tube there is a period during which urine escapes, but by this time the patient is up and about and more or less able to take care of himself. This state of affairs lasts but a short time, when the wound closes and the patient is capable of passing his urine voluntarily.

Perhaps one third of our work has been done by the perineal and two thirds by the suprapubic route. We have obtained good results by both methods, but have come to look upon the latter as the safer procedure. It has been our experience to see many of the complications following these cases among which may be mentioned, hemorrhage, infection of the suprapubic wound, orchitis, epididymitis, delirium, incontinence of urine, stone in the bladder, and finally a gradual wasting away of the patient, probably the result of urosepsis

Some of these complications we believe, can be avoided at the present time. For example, hemorrhage should not occur, and incontinence does not follow the suprapubic operation. Stone in the bladder following prosatectomy occurs most frequently in connection with an alkaline urine, but if steps are taken to keep the urine acid this complication may be avoided;

and the writer believes that the danger of infection can be reduced to the minimum by the two stage operation.

In conclusion the writer would offer one suggestion, and that is, the General Practitioner use every precaution to avoid traumatism and infection in his attempts to meet what seems to us the only emergency in prostatic surgery, namely acute retention.

A GENERAL SURVEY OF THE WORK OF THE SURGICAL SERVICE UNITED STATES ARMY BASE HOSPITAL 61 A. E. F.*

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Brooklyn, New York.

THE personnel comprising Base Hospital 61 was selected at large. It was formed at Camp Greenleaf, Ga., in June, 1918. The unit received orders to proceed to Camp Lee, Va. Here the enlisted personnel was brought up to full strength and intensive training for overseas was begun. We were quartered on a camp site under tents near the Camp Base Hospital grounds. On August 19, orders were received to send our Base, consisting of 35 officers and 200 enlisted men to Newport News, Va., for embarkation. On August 21 the organization with full field equipment for extended field service marched to City Point on the James River. The command reached Newport News after spending the night on a Day Excursion Steamer, very early in the morning of August 22, and with Hamlet would

1. Officers Quarters, Camp Lee, Petersburg, Va.

The water supply was ample and of good quality. There was no sickness.

Bathing facilities consisted of showers of temporary construction. The camp was lighted by electricity.

Frequent inspections for contagious and veneral diseases were made, and the men instructed in personal hygiene. All officers and men were properly inoculated against typhoid fever, and vaccinated against smallpox before leaving the camp for overseas service.

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* Read in abbreviated form before the Medical Society, County of Kings, November 18, 1919.

2. Personal Field Equipment of Medical Officer for extended overseas service. Knapsack, canteen and cup, steel helmet, medical belt (contains diagnosis tags, hypodermic case, thermometer, instrument case and first aid pouch.

3. Gas Mask in Position—Gas Mask, Sanitary squad and other drills were instituted, as part of intensive training. Many of the officers and men were assigned to the Base Hospital, Camp Lee, for professional and clerical training.

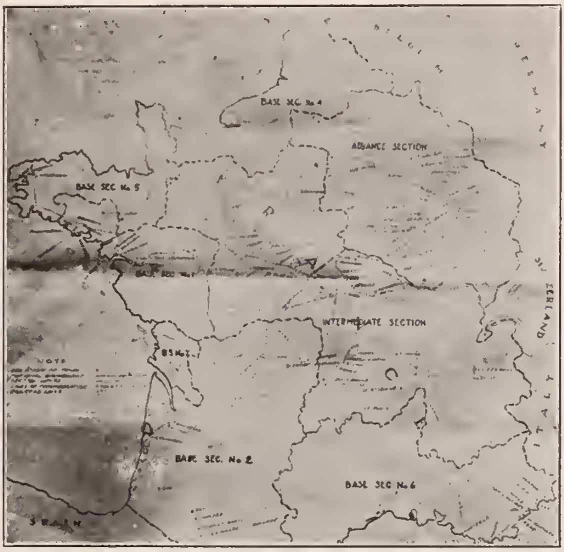
exclaim, "Alas, I have spent a weary night." The organization immediately embarked on the S. S. Lutetia. In Hampton Roads we were joined by five other troop ships convoyed by a battle cruiser, two destroyers and two submarine chasers. Lookouts were established and precautions taken to thwart submarine attacks. Life belts were at hand at all times. Boat drills were held frequently and occurred at all hours. The first real thrill of war was experienced the second day out when a submarine was sighted. A destroyer crowded on steam, fired several shots and dropped depth bombs. A few days later a loud cannonading was heard and we went thru another thrilling experience. On Sept. 1, a new escort picked us up consisting of fourteen destroyers. These surrounded us and a captive ballon led the advance of the fleet. Two days later we landed at Brest and proceeded to the rest camp at Pontanazen Barracks. We remained there one week when we were ordered to a large Hospital Centre at Beaune. Our troop train arrived at its destination after three days travel. We were well satisfied with the camp and the buildings and considered ourselves fortunate in receiving the assignment. Hospital buildings, however, complete from the engineers' standpoint are not complete from the standpoint of a hospital unit. A large task confronted us in getting our organization ready to receive patients.

The Surgical staff was organized under one chief and an assistant to the chief. There were seven subsection, or department chiefs, presiding over General Surgery, Orthopedics, Urology, the Eye, Ear, Nose and Throat, Dentistry and Roentgenology.

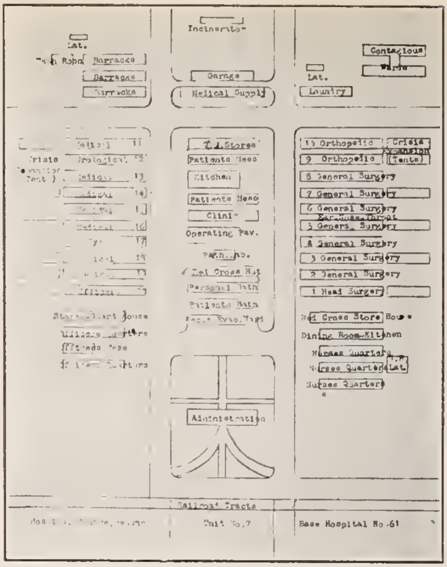
4. The S. S. Lutetia.

The Lutetia was a French liner originally designed for passenger traffic between France and South American ports.

She was of 18,000 gross tons, had a speed of 23 knots and a capacity of about 2,600 troops. There were many luxurious suites of room with gold and old rose trimming, private baths with hot and cold water. All of the officers were fortunate enough to be "billeted" in these ornate apartments.



5. Map of France showing Base Sections established by the A. E. F. Landed in Brest, September 3, billeted in Pontanezen Barracks occupied by Napoleon as an artillery camp. We left Brest, September 10, the enlisted personnel in box cars which were calculated to accommodate 40 men or 8 horses. However, more than 40 men with more than 40 packs and rations for three days' travel still left room for every one to growl. Officers rode in dilapidated first class compartment day coaches. The journey across France occupied 58 hours. At various stations we were served with coffee by the French Red Cross. It was a tiresome journey endured with little sleep, much Corned Willy and many beans.



6. Typical Unit Plan.

The Beaune Centre was planned to accommodate 10,000 patients with a crisis expansion of an equal number of tentage. Each unit consisted of 54 buildings equipped with water supply, electricity and sewage system.

When the Armistice was signed November 11, 400 buildings had been completed and five Base Hospital, Type A, units and a large convalescent camp were in operation.

On September 30, 1918, we reported ready to function. There were 1,000 empty beds. We had no surgical dressings and few surgical instruments. A drum sterilizer was borrowed from Base Hospital No. 47, which was then in operation and had received their first patients about four weeks previously. Soon a large quantity of adequate, sterile dressings were prepared.

The first hospital train, or what we termed colloquially "a

7. Headquarters, B. H. 61. Nurses Quarters in the distance.

8. Row of Medical Wards.

Showing Receiving Ward on the right. Here all patients were admitted, sent to the Bath House adjoining and subsequently surgical cases to the Operating Pavilion for dressing and the medical cases to the wards. Patients were handled here quickly and without confusion. Our first "convoy" of 404 patients were admitted, recorded, bathed, sent to the wards and fed in less than 4 hours.

Convoy," arrived about 8:30 on the evening of October 5th with 404 patients, the second at 12:30 A. M., October 6th with 232 cases. 636 patients were received between darkness and daylight that same night. Of these cases 438 were Surgical. On October 9th, we received another "convoy" of 145 cases, The morning report October 10th, showed the ten general surgical wards of 50 beds each, 500 in all, contained but three empty beds with 22 patients in the Genito-Urinary

9. Interior of Receiving Ward, Showing Litter Racks.

While upon these racks each patient was interviewed by a corps of doctors and clerks. Here all Field Medical cards and clinical data in the possession of the patient were collected, and upon completion of the registrar's records were immediately returned to the ward together with the admission blank properly filled out. Money and valuables were also collected here, and checked.

10. Medical Wards.

On the right Pathological Laboratory and Operating Room. Medical Supply Ware House in the Distance.

and 32 in the Eye, Ear, Nose and Throat ward, making a total of 551 surgical cases. We had thus more than half filled our Hospital with surgical cases during the first four days of our operation. This was no small undertaking even for a large, well equipped and organized civil institution with its highly trained staff accustomed to work with each other and with every facility at hand. Our nurses had not arrived on the scene and we worked under the further disadvantage of not knowing the practical professional qualifications of our staff.

Our crisis expansion was then added, consisting of 12 tents of fifty beds each. These were placed back of the wards. Our capacity was thus increased to 1,600 beds. On the 13th of October we received our fourth "convoy." About two "convoys" arrived weekly, until on October 31, 1918, we reached the high mark of 1,400 patients with 1,145 surgical cases.

We received in all 18 "convoys," the last December 11, 1918, which brought us to a total of 2,403 admissions up to that time; of

11. Surgical Wards.

Field Disinfector and sterilizer shown on the left. All clothing and blankets worn by patients at the time of admission were removed in the bath house, and later sterilized and salvaged.

12. Pathological laboratory adjoining the Operating **Pavilion.**

these 1513 were surgical. There were about 400 additional cases admitted from other sources than hospital trains, making a grand total of 2,809 admissions, of these 58% were surgical.

From this time on the number of cases gradually diminished, convalescents were sent to the Convalescent Camp and those wounded too severely to again become combatant soldiers, but who had recovered sufficiently to travel were sent back to the United States.

On November 11th, the day the Armistice was signed, we had a total of 1,346 cases; 1,071 of which were surgical. One month later there were 734 patients, more than half of which were surgical.

There was little variation from this number until January 10, 1919 when the census fell to 591 cases. One week later this dropped to less than a hundred cases, (55 surgical, only 6 of which were still unable to travel).

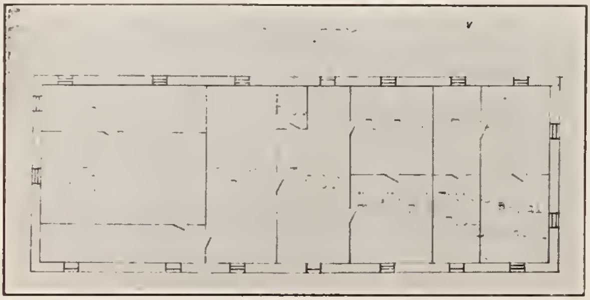
13. The Centre Laundry.

The third largest in France, did work not only for the Beaune Centre but for the hospitals in Dijon, Semaur, and Allerey, representing 40,000 people. It was equipped with American machinery of the most modern type. It employed 130 help, worked night and day and had a capacity for 35,000 pieces per day.

14. General View of the Hospital Centre, situated about 1 kilometer from Beaune. Engineers, who arrived in March, 1918, to build the Centre, found the site selected was entirely covered with vineyards. On August 1, five months later, two units were completed and ready for occupancy and 15 miles of road constructed. Water, supply was from 3 driven wells. Each had a daily capacity of 1/2 million gallons of potable water. There were 12,807 patients admitted to the Centre up to February 22, 1919.

On October 7th, 1918, the day after our first "convoy" arrived Base Hospital No. 47 loaned us two nurses for our Operating Room, who remained with us until our nurses arrived Oct. 15. During these nine days, 55 operations were performed and dressings prepared and sterilized for a large number of wounded. Too much cannot be said in praise of the untiring work of our ward surgeons, and corpsmen during this time. The corps men, who had been drafted into the Army but two or three months previously from every walk of life and who were untrained as operating-room orderlies and ward attendants, were working night and day in the operating room and doing the nursing in the wards.

The largest number of wounds due to projectiles were caused by shell fragments (65.14%, machine gun (29.9%) and rifle bullet wounds (2.67%) came next in frequency. Grenades caused very few (2.02%) while bayonet wounds were extremely rare (.18%). A small percentage of wounds were caused by falling objects, stones, boards or trees. There were a few crushing injuries caused by some form of machinery, artillery or auto trucks.



15. Floor plan of Operating Pavilion. Note ready access to fluoroscopic room. Newly admitted surgical cases were dressed in the hall.

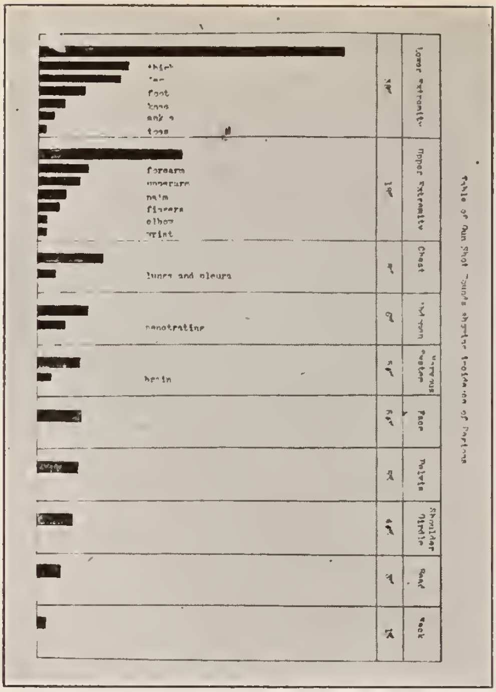
16. The Operating Room. Sterilizing room in distance.

Many of our cases had already been operated upon and most of these wounds, although they showed that they had been cared for in an excellent manner, were infected. We at once began a war on pus organisms with the aid of the Carrel-Dakin treatment. This was no small task, but the untiring efforts to keep wounds clean, patients warm and well fed, soon showed its effect by the rapid convalesence of the patients.

After the first two or three "convoys" had been received we frequently found empty bed space such that all of the surgical cases from a fresh "convoy" would have to be placed in two or three wards. This of necessity threw the burden of work upon two or three ward surgeons and caused some delay in affecting an early change of dressings and bacteriological examinations to determine the type of infection.

Up to this time all patients had passed from the receiving ward into the bath-room where every patient, regardless of how sick or how

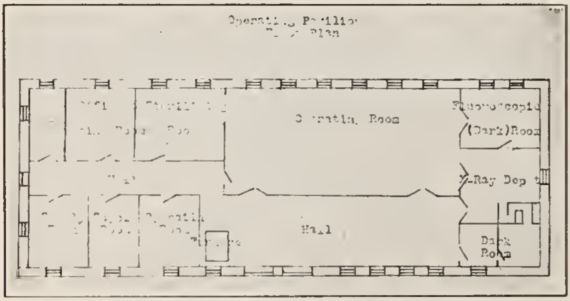
17. Corps of doctors dressing newly admitted sugical cases. Clerks record data.



18. Graphic chart showing incidence of wounds.

severely wounded, was given a bath and examined for cooties. They were then transferred to the ward designated. There the ward surgeon redressed every wound and took smears and cultures for bacteriological examination. Hot coffee and broth were then served and the patient made as comfortable as his wounds would permit. This often necessitated the ward surgeon working all night and many times well into the next day before his work could be completed.

To overcome this difficulty we established, what we believe to be original in our Centre with Base Hospital No. 61, namely a dressing station in the Operating Pavilion, where all newly admitted surgical patients were taken directly from the bath-room. Here a corps of surgeons and nurses redressed and examined every wound, while the



19. Floor plan of Clinical Building. Surgical dressing room for ambulatory patients. Dental, maxillo-facial, eye, ear, nose and throat. This building, also, housed pharmacy and dispensary.

pathologist and his laboratory assistant made smears and cultures from every wound. The patient was then sent to the designated ward where he received his hot coffee and broth.

This system had many advantages, the most important of which was the saving of time in the dressing of wounds. It also facilitated early bacteriological reports. Aside from the time saved, many conditions requiring operative interference were thus detected immediately and, if urgent were operated at once or placed upon the list for the next day. Splints were re-adjusted here, and where any doubt existed as to the proper reduction of fractures an immediate X-Ray examination was made.

The early bacteriologic reports thus obtained were of great value especially in cases in which gas gangrene producing bacteria were found. Those cases were watched closely and upon the first clinical symptons of gas infection a wide excision was made of the muscles and fascia. Many cases were given the benefit of anti-gas gangrene serum. When these measures failed to stop the progress of the disease an amputation was performed which in most cases saved the patient's life.

Our results in blood transfusion were excellent. Early in the period of our hospital life, our corps men had been grouped for use as donors and we were never short of volunteers. When blood was needed for wounded German Prisoners, of whom there were quite a number, convalescent Germans were grouped and blood taken from them to supply the needs of their comrades. We used transfusion with very gratifying results in badly exanguinated and shocked cases, frequently as a preliminary to amputation or other operation. We employed the citrated blood method.

Five hundred and fifty-five cases were operated upon during the period from October 7, 1918 to January 26 1919.
The following is a classification of these operations:

Amputations	47
Arm, Upper	4
Forearm	2
Finger	1
Thigh	25
Leg	10
Foot	3
Toes	2
Appendectomies	14
Application of Plaster Casts	15
Arthotomies	3
Bone Repair	4
Breaking up of Anklyosis	5
Dacrocystitis	1
Eneucleation of Eye	1
Hemorrhoidectomies	18
Herniotomies	21
Hydrocele	3
Incision and Drainage	144
Ligation of Artery	5
Mastoid	2
Operation of Nose	5
Removal of F. B. and Wires from Jaw	2
Paracentesis	4

20. Crisis expansion tents. These accommodated 50 beds each.

Phlebotomies	7
Plastic Repair	19
Revision of Stumps	15
Arm	1
Finger	4
Thigh	8
Leg	2
Removal of Foreign Bodies	48
Removal of Ingrowing Toe Nails	3
Resections of Joints	7
Ankle	2
Knee	2
Hip	3
Removal of Polypoid Tumor, Naso-pharynx	1
Secondary Closures	113
Sequestrectomies	13
Skin Graft	8
Tendonorrhaphy	2
Thoracotomy	5
Tonsillectomies	7

21. Hospital train on the spur, which ran into Hospital Centre. This spur is shown in Unit plan near administration building.

Transfusions	7
Transplantation of Pterygium	1
Total	155

There is a record of 108 foreign body cases. About 80% were shell fragments, 11% were machine-gun or rifle bullets, 3% were in-driven spicules of bone and one per cent were pieces of clothing.

It is interesting to note the remarkable coincidence of 205 operations performed in October and in November. Also, that there were 6 operations for appendicitis in October and 6 in November. There were also 7 cases of hernia operated on in October and 7 in November. The Operating Pavilion was very completely equipped. A very satisfactory steam heating plant was installed in November.

The operative work in general might be divided into three phases. The first covered the first five or six weeks and consisted chiefly in wound excision and the removal of foreign bodies. The second phase extended up to Christmas and consisted in the main of secondary closures. The third phase extended from this time to January 31, 1919, and consisted in the operative treatment of compound fractures.

All anesthetics were given by the corps-men. Although these men before coming into the army, had for the most part never given an anaesthetic; yet under the tutelage and the supervision of the operating room surgeons, they soon gained the required skill and knowledge. There were 422 etherizations. Chloroform was administrated five times. There were 89 operations performed under local anesthesia. An average of 110 cases were dressed a day in the dressing room in the clinical building established for convalescent patients able to be up and about.

The Orthopedic Department, while doing excellent work through out the entire period in splinting compound fractures, became especially active during the latter part of our work with baking and massaging, contracted muscles, tendons, and stiffened joints. Special attention was paid to the correction of preventable deformities. A study of the fractures showed that 94% were compound and 6% were simple. Practically al compound fractures were infected.

Fractures.

Region	Bone	Percentage	Right Side Percentage	Left Side Percentage
Head		10.3%		
Skull	Frontal	16.2%		
	Temporal	19.4%	3.3%	3.3%
	Parietal	6.6%	9.7%	9.7%
	Occipital	6.5%	....	....
Face	Sup. Max.	12.4%	12.4%	....
	Infer. Max.	35.6%	....	....
	Nasal Bones	3.3%	....	....
Chest		3.7%		
	Ribs	90.9%	36.4%	54.5%
	Sternum	9.1%		
Vertebra		1%		
	Dorsal	33.1/3%		
	Lumbar	33.1/3%		
	Sacral	33.1/3%		

Upper Extremity	33.4%		
Clavicle	1%	1%	
Scapula	4%	2%	2%
Humerus	30%	18%	12%
Ulna	10%	4%	6%
Radius	12%	5%	7%
Ulna & Radius	11%	4%	7%
Metacarpus	9%	3%	6%
Carpals	2%	1%	1%
Phalanges	21%	7%	14%

Lower Extremity	49%		
Ilium	2%		2%
Ischium	.7%		.7%
Femur	27.8%	12.2%	15.6%
Tibia	17.4%	7%	10.4%
Fibula	8.5%	5.7%	2.8%
Tib. & Fib.	12.7%	4.4%	8.3%
Patella	4%	2%	2%
Tarsals	14%	5%	9%
Astrag.	2%	.7%	1.3%
Oscalsis	8.6%	3.6%	5%
Cuboid	7%		7%
Cunieforms	2.7%	.7%	2%
Metatarsals	11%	6.2%	4.8%
Phalanges	2%	1.3%	.7%

	Bone Wounds
	8%
Temporal	12.5%
Inferior Max.	12.5%
Humerus	12.5%
Femur	12.5%
Tibia	37.5%
Astragalus	12.5%

In our studies of classified gun-shot wounds as a whole we found that the largest number of gun-shot wounds involved the lower extremity, the greater number the thigh and leg. The next region in order of frequency was the upper extremity, of which the greater number involved the forearm and upper arm. The thorax was involved to the extent of about 8%, as was the abdominal region. In about 5% the nervous system was wounded and in the same percentage the facial region. We find about 5% of wounds of the pelvic region and about 5% of wounds of the shoulder girdle, 3% of wounds of the head, and 1% of wounds of the neck.

During the period from October 6, 1918 to February 2, 1919, fifty-three cases of venereal disease were admitted to the urological department. There were twenty cases of gonorrheal urethritis, twenty-five cases of lues and 8 cases of chancroid. The venereal rate was 18 per thousand. A fact that strikes one forcibly is the relatively high percentage of lues as compared with gonorrhea. Army records of gonorrhea compiled previous to the present war showed that the percentage rate was 35 of gonorrhea to 15 of syphilis.

Very few cystoscopic examinations were made. Some interesting cases of gun-shot wounds of the genitalia were seen. One case of bilateral traumatic hydrocele is recalled, caused by a high explosive shell which burst in the immediate vicinity of the patient. Two hundred c.c. of fluid were removed. sac everted and sutured.

Veneral prophylaxis proved its great value in being effective in over 95% of cases.

It soon became apparent that most of the work of the eye department would be cared for in a clinic and other wards than its own because of other more severe associated injuries. As a result an Eye Clinic was opened.

The clinic was equipped to handle every eye condition except the removal of magnetic intra-ocular foreign bodies. As time went on and the wounded began to be up and about the wards, the refraction work increased. Many of the men had broken or lost their glasses in action and required new ones. All refraction cases were done under a cyclopegiac, followed by a post-cyclapegiac test, before lenses were prescribed. It was found necessary to prescribe glasses in about 75% of the cases examined. The daily average of cases treated for the months of October, November, December, January was 9.8. Of these about 50% were refraction cases.

The problem of obtaining glasses was probably the most trying one with which the eye department had to contend. There was no optical department in our Centre, so we had to depend upon Base Hospital No. 17 in Dijon to supply our needs.

The operative eye work was somewhat of a disappointment. The battle injuries involving the eye were usually of such a serious nature that surgical interference was demanded immediately, As a result, most of the surgery performed at the Evacuation Hospitals and the cases sent to us for after care. In several instances, however, it became necessary to perform secondary plastics upon wounds that had broken down as well as in those instances in which it was thought that a better socket could be secured by further interference.

Considerable work of the most interesting and varied character was performed by the dental department. This department did not confine its activities to the mere care of the teeth, but pursued a broader policy and considered the mouth as a whole. The department was not unmindful of the development of general symptoms which might indicate a primary focus of infection in the teeth. In these cases careful examination was made and in some instances primary foci of infection were located.

Another activity of the Dental Department consisted of an educational campaign in Oral Hygiene and Prophylaxis. An attempt was made to teach each patient upon his arrival the value of these methods as preventive against the spread of infectious disease. This required visits to the wards each day and hundreds of individual instructions were given. Eight hundred and thirteen patients received attention in the dental clinic. A considerable number received bed-side treatment. It may ben conservatively estimated that each patient made four visits. There were therefore approximately 3200 treatments.

As regards our dental armamentarium, we had in addition to a base outfit, a very complete laboratory equipment. All prosthetic work from the other units was referred to us.

The dental department also included the maxillo-facial work of our unit. Considering results as a whole, they were very satisfactory. The X-Rays taken after application of splints showed good reduction of the fractures. These splints were made of vulcanite and metal, both cast and swaged.

We were fortunate in having as Consultant, in the Maxillo-Facial Section, Major George Dorance, of Philadelphia, assistant to the Chief Consultant of the A. E. F. in Maxillo-Facial Surgery.

The activities of the X-Ray Department started at once upon the arrival of our first "convoy" of sick and wounded from the front.

There was no apparatus of our own at that time with which to work, and a great deal had to be done to prepare ourselves for the urgent work which we realized was to come to us. We were successful in obtaining a bed-side unit and a French localizing outfit. About a week later our own X-Ray equipment arrived. It was a fine outfit, and we were then fully prepared to meet every requirement. We never lacked for supplies in any particular.

A steady stream of patients began to flow into the X-Ray room. At this time about 40 or 50 plates were made a day in addition to localizing, flourscopic, and dental film work.

In all 1029 patients were rayed. As many as six plates, in some cases, were taken of different regions in the same individual. There were 150 dental films. Particular interest centred in the compound comminuted gun-shot fractures of the long bones with loss of bone tissue and prevalence of osteomyolitis. The chief interest in the chest plates was found in the penetrating wounds showing pyo-pneumothorax, hemo-thorax emphysema, and retained foreign bodies. A great number of chest plates showed pneumonia, fluid and a few tuberculosis. The plates of the trunk showed the fractures of the vertebrae, shoulder-girdle, pelvis, and retained projectiles in the abdomen. In the head plates were shown the fractures, spicules of bone pressing on the brain, foreign bodies and depressions.

The comminuted fractures of the jaw were very interesting to watch in their stages of repair. There was usually a great loss of bony structure in these. In nearly all the head pictures stereoscopic views were taken. Every evening the plates taken during the day were demonstrated in the X-Ray room. A general discussion by all the officers of the surgical service followed. Prompt interpretations were thus made of all plates, and X-Ray findings correlated with the clinical aspects. A general knowledge of all the serious cases was thus obtained at the earliest possible moment.

There were 43 deaths in the surgical service, a mortality of 2.6%. Four died following operation, an operation mortality of .7%.

Of the 43 deaths in the Surgical Service 12 had been amputated; in 22 others an operation of some kind had been performed. There were 7 deaths in which no operation was performed and in two no statement can be made with regard to operation or otherwise. A comparison of the clinical and post-mortem diagnoses was made the subject of critical analysis and furnished interesting information.

A study of the post mortem diagnoses shows 47 chest complications.

Forty cases showed the lungs and pleura involved. Seven involved the heart and pericardium. In the series of forty lung and pleura conditions there were 11 brocho-pneumonia. There were 7 cases of empyema. There were also 7 cases of acute or chronic fibrinous or adhesive pleurisy. In 6 other cases the type of acute pleurisy was not stated. There were three cases of pleurisy with effusion. There were two cases of pulmonary tuberculosis. Two cases of hemothorax were recognized. In one case, bronchitis was unrecognized clinically. In one case bronchitis was mistaken clinically for tuberculosis. One case of pulmonary embolism was not recognized.

There were 7 complications of the heart and pericardium. There was one dilatation and hypertrophy of the heart. There were two cases of pericarditis and three cases of endocarditis. There was one congenital fusion of the aortic flaps.

In the post-mortem series there were 5 penetrating wounds of the chest. In one case a traumatic diaphragmatic hernia of the colon existed.

A study of 14 cases of gas-gangrene shows that 4 were apparently not recognized. There were nine cases of nephritis, acute or chronic.

There were six abdominal lesions. They all involved intra-abdominal structures. Four were penetrating gun-shot wounds. In one case the missile entered the abdomen through the chest, one case was a non-penetrating gun-shot wound of the abdominal wall and in this case the peritoneum was invaded by contiguity as was another to be related later. There were 5 cases of peritonitis, 4 were diffuse and one was localized. There was one injury to the liver and one penetration of the colon. The former was unaccompanied with peritonitis, was slight and was not recongized clinically. There was one post-operative death among these which deserves special mention. The case was one of empyema of the appendix (as was shown when the organ was split later). The organ was removed without rupture and the incision closed without drainage. The immediate post-operative reaction the same night was 103 degrees F. Chest examinations were repeatedly negative. The patient looked very sick. This persisted until the second day when the wound was examined and the right iliac region in the vicinity of the McBurney incision was found to be marked red, swollen, and edematous.. The sutures were removed and the wound separated down to the peritoneum. A small amount of thin, yellow, clear liquid and some gas bubbles were expressed from beneath the aponeurosis of the external oblique. The wound was laid wide open and drained with tubes placed between the fascial planes and down to the peritoneum. The next day the temperature dropped somewhat. Anti-gas serum was administered and the fourth evening the temperature dropped below normal. The condition of the abdominal wound remained in statu quo. Bubbles and a thin serous discharge continued. The following day the patient died. Unfortunately there is no record of the bacteriologic examination but the writer is reasonably certain the infection was due to gas forming organisms, probably the B. Edematis. The edema was very extensive. It extended to the lower ribs above, down over the right groin and to the midline of the abdomen. Section of the muscles at autopsy was attended with characteristic gritting. The infection had spread for the most part between the oblique muscles but beneath the skin as well to a less extent. The peritonitis showed for the most in adherent loops of gut, injection of the intestinal visceral peritoneum and in a small amount of serous fluid.

We were unable to trace the source of the infection, though cultures were made in the operating-room from gloves, instruments, dressings, gut, etc.

There were two instances of septic infarcts of the spleen and two cases of splenitis.

There were three cases of meningitis. There were two instances of metastatic abscesses in the kidneys and one perirenal abscess. The case of brain abscess was correctly diagnosed clinically. There was one case each, of panophthalmitis, subphrenic abscess and diaphragmatic hernia.

On the morning of January 31, 1919, a telegram was received from the Chief Surgeon's office, A. E. F., which stated that Base Hospital No. 61 was to be returned to the United States. Before midnight the same day we had evacuated 79 remaining patients to another Base in the Centre, disposed of our equipment, closed our records and ceased to function as a hospital.

SUGGESTIONS FOR A PLAN OF INVALID FEEDING

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A serviceable plan of invalid feeding would seem to require a series of diets ranging from a barley water diet to one which overfeeds to the extent of twice the normal body needs, including prescriptions for rectal feeding. Such a series is given in the plan here described, consisting of ten diets with modifications. The first four of these diets are general, that is, are not designated for any special condition. The fifth is labelled "House Diet", and is not described, being understood as referring to the diet arranged by the hospital dietician for the resident personnel of the Hospital force: it may be found convenient in a hospital to prescribe this diet for convalescent surgical patients who are free from internal disease. The last five diets are for special conditions, and are selected from the many special diets which suggest themselves on account of the importance and frequent occurrence of the conditions for which they are recommended. One of them is for typhoid fever, one for gastric ulcer, one for pneumonia, and two for rectal feeding. A special diet which might claim a place in any list of such diets, however small, viz, for diabetes, is omitted because it is impossible to describe adequately in a few formulae the feeding in that disease, where a very high degree of individualization in feeding is regularly called for. This plan of invalid feeding, while far from constituting a complete system of dietotherapy, gives definite directions for feeding which, it is believed, can be used to meet the essential requirements in a large proportion of cases; and it may also serve as a basis on which more elaborate dietaries can be built. For convenience of individual modification of the diets, especially for the purpose of adding variety, a small list of food stuffs which may be prescribed as substitutes or extras is appended.

Following is a general description of the ten diets and their modifications. (The quantities mentioned are for the daily ration.)

Number 1 is a fluid cereal diet. It supplies 64 ounces of barley water or similar preparation. Its modifications add salts and strained fruit juices and substitute cereal porridges. It is a rest diet for the alimentary tract, and makes against the growth of undesirable bacteria in the intestines.

Number 2 is a fluid diet with milk as its basis. It supplies 43 ounces of milk and 21 ounces of barley water or similar preparation. Its modifications add extra milk and fruit juices and substitute other milk preparations and whole milk. It constitutes a fluid diet of considerable food value, suitable for use in most conditions where a fluid diet is required.

Number 3 is a milk and cereal diet. It supplies 43 to 56 ounces of milk, 6 ounces of cereal porridge, 6 ounces of boiled rice or macaroni, 2 ounces of toast and one-third ounce of butter. Its modifications add fruit juices and substitute cream or cottage cheese and an egg for some of the milk. It is an "easy" diet, and also a "soft" diet. It can be used in convalescence from the acute febrile diseases and in many other conditions.

Number 4 without its modifications is a strictly lactovegetarian diet; with all its modifications it is a mixed diet which overfeeds to the extent of nearly twice the ordinary body needs. It supplies 14 to 21 ounces of milk or milk soup, 6 ounces of bread, 10 ounces of cereal porridge, 4 ounces of boiled macaroni or rice, 4 ounces of cream or cottage cheese, 1⅓ ounces of butter, green vegetables and potato. Its modifications add respectively, more milk, bacon, egg, animal flesh, fruit and salad. It can be used as a general convalescent diet. It can also be used in such diverse conditions as chronic nephritis and pulmonary tuberculosis, depending on the modifications.

Number 5 is "House Diet," to which allusion has already been made.

Number 6 is a special diet for typhoid fever during the febrile period. It supplies 50 ounces of milk, 11 ounces of cream, 5½ ounces of Mellin's food, 16 ounces of barley water or similar preparation, 8 ounces of strained fruit juice, 4 ounces of lactose (in addition to that in the milk), and about 110 ounces of water. This prescription may need modification to meet varying indications in particular cases, and a number of modifications are suggested though not fully described.

Number 7 is a special diet for gastric ulcer during the first week or so of medical treatment, when the patient is fed by mouth. It supplies 47 ounces of milk and 23 ounces of barley water or similar preparation, given in small amounts at short intervals. Its modifications substitute for four of the feedings a mixture of strained fruit juice, lactose and water, and add olive oil.

Number 8 is a special diet for pneumonia during the febrile period. It supplies 35 ounces of milk, 17 ounces of barley water or similar preparation, 6 ounces of strained fruit juice, 2 ounces of lactose (in addition to that in the milk), 35 grains of sodium bicarbonate, 22 grains of sodium chloride and 30 grains of calcium chloride (in addition to the salts in the other articles), and 90 ounces of water.

Number 9 is a special diet for rectal feeding which contains no protein. It supplies 6 ounces of dextrose (glucose), strained juice of three oranges or equivalent amount of grapefruit juice, 180 grains of sodium bicarbonate and 132 grains of sodium chloride (in addition to the salts in the fruit juice), and 60 ounces of water.

Number 10 is a special diet for rectal feeding which includes protein. It supplies 20 ounces of thoroughly pancreatized skimmed milk, 3 ounces of dextrose (glucose), strained juice of one and a half oranges or an equivalent amount of strained grapefruit juice, 90 grains of sodium bicarbonate and 66 grains of sodium chloride (in addition to the salts in the other articles), and 50 ounces of water. It is modified by omission of the glucose feedings and increase in the number of the pancreatized milk feedings.

The quantities mentioned are those intended to be actually eaten, and do not include plate waste. Water is allowed as wanted unless a particular quantity is specified. Salt sufficient for ordinary seasoning in cooking is allowed unless specifically restricted. Otherwise the prescriptions are exclusive: sugar and condiments are not mentioned, and cannot be taken unless specifically allowed.

A considerable extension of range of usefulness of the basic prescriptions is secured by the modifications, which must be considered as intimately connected with them. The basic prescriptions are purposely trimmed down to very simple forms. Other modifications besides those mentioned, particularly in regard to changing of quantities and times of feeding, substitution of equivalent articles, and addition of extra articles, may readily suggest themselves to the attending physician.

The modifications can be used singly or in combinations, as for example, *Diet 2B,* or *Diet 3ABC,* or *Diet 4BDEF with D only on Wednesdays and Sundays,* or *Diet 6 with substitution of lact-acidized milk for alternate feedings of the milk mixture.*

Following is a detailed description of the diets, with a list of extra articles of food.

DIETS

Diet No. 1

Barley water, (or, if so specified, rice water, other cereal decoction, or a six per cent. solution of Mellin's food in water), 240 cc., (8 oz.), at 7 a. m., 9 a. m., 11 a. m., 1 p. m., 3 p. m., 5 p. m., 7 p. m., and 9 p. m. To be given hot or cold, as the patient prefers, (or as specified).

(Diet 1 supplies about 10 grams of protein and about 300 calories.)

No. 1A

The same as 1 with feedings of the following mixture: strained juice of one orange, or equivalent amount of strained juice of grape fruit or pineapple, water to make 221 cc., (7 oz.), (and, if so specified, milk sugar, 30 gms., 1 oz.); at 8 a. m., 12 m., and 6 p. m., (or other specified hours).

No. 1B

The same as 1 with addition of sodium bicarbonate, ⅔ gm., (10 grs.), sodium chloride, ⅓ gm., (5 grs.), (and, if so specified, calcium chloride, 1-5 gm., 3 grs.), to each feeding.

No. 1C

The same as 1 with substitution of Imperial Granum, (or other specified cereal), prepared as a porridge, 180 gms., (6 oz.), for the feedings at 7 a. m., 11 a. m., and 5 p. m.

No. 1D

The same as 1 with omission of the feeding at 10 p. m., and reduction of the quantity of all the feedings to 180 cc., (6 oz.), (or other specified quantity).

Diet No. 2

Milk, diluted with one third its volume of barley water, (or other specified cereal decoction), (or plain milk, if so specified), 240 c.c., (8 oz.), at 7 a. m., 9 a. m., 11 a. m., 1 p. m., 3 p. m., 5 p. m., 7 p. m., and 9 p. m.

(Diet 2 supplies between 45 and 65 grams of protein and between 960 and 1280 calories.)

No. 2A

The same as 2 with feedings of the following mixture: Strained juice of one orange, or equivalent amount of strained juice of grape fruit or pineapple, water to make 221 c.c., (7 oz.), (and, if so specified, milk sugar, 30 gms., 1 oz.); at 8 a. m., 12 m., and 6 p. m., (or other specified hours).

No. 2B

The same as 2 with substitution of peptonized milk for the milk

No. 2C

The same as 2 with substitution of lacticidized milk, (or, if so specified, buttermilk), for the feedings at 9 a. m., 1 p. m., 5 p. m., and 9 p. m., (or other specified hours).

No. 2D

The same as 2 with additional feedings at 2 a. m., and 5 a. m.

Diet No. 3

At 7 a. m., milk diluted with one third its volume of barley water, (or other specified cereal decoction), (or, if preferred, plain milk), 240 cc., (8 oz.)

At 9 a. m., moist cooked oatmeal, cream of wheat, wheatena, farina, or corn meal mush, 180 gms., (6 oz.), with milk, 240 cc., (8 oz.).

At 12 m., milk as at breakfast, 240 cc., (8 oz.).

At 2 p. m., toast, 60 gms., (2 oz.), with butter, 10 gms., (⅓ oz.), and milk as at breakfast, 240 cc., (8 oz.).

At 5 p. m., milk as at breakfast, 240 cc., (8 oz.).

At 7 p. m., macaroni, spaghetti or boiled rice, 180 cc., (6 oz.), with milk, 240 cc., (8 oz.).

At 10 p. m., milk as at breakfast, 240 cc., (8 oz.).

(Diet 3 supplies between 60 and 75 grams of protein and between 1300 and 1660 calories.)

No. 3A

The same as 3 with feedings of juice of one orange, or equal amount of juice of grape fruit or pineapple, diluted with water, 150 cc., (5 oz.), at 8 a. m., 1 p. m., and 6 p. m., (or other specified hours).

(This modification adds about 100 calories.)

No. 3B

The same as 3 with the addition of cream or cottage cheese, 60 grams, (2 oz.), to the feeding at 2 p. m., and omission of the milk in that feeding.

(This modification adds about 12 grams of protein and about 100 calories.)

No. 3C

The same as 3 with the addition of a soft boiled or poached egg to the feeding at 2 p. m., and omission of the milk at that feeding, every day, (or a specified number of days a week).

Diet No. 4

Breakfast:

Moist cooked oatmeal, cream of wheat, wheatena, farina, or corn meal mush, (or other specified cereal), 120 gms., (4 oz.).

Toast, 60 gms., (2 oz.).

Butter, 10 gms., (⅓ oz.).

Milk, diluted with one third its volume of barley water, (or other specified cereal decoction), or, if preferred, plain milk; (or, if so specified, buttermilk or lactacidized milk), 221 cc., (7 oz.).

Dinner:

Soup made with milk, vegetables and a little flour, viz, cream of corn, celery, potato, carrot, spinach, green pea, asparagus, oyster plant, or milk as at breakfast, 221cc. (7 oz.),

Toast or old bread, or whole wheat or graham bread, 60 grams, (2 oz.).

Butter, 20 gms, (⅔ oz.).

Boiled macaroni, spaghetti or rice, 120 gms., (4 oz.).

Cream or cottage cheese, 60 gms., (2 oz.).

Potato, baked or boiled, one medium sized.

Cooked spinach, string beans, butter beans, squash, carrot, celery, green peas, (or other specified green vegetables), ordinary portion.

Supper:

Cereal as at breakfast, or macaroni, spaghetti or boiled rice as at dinner, 180 gms., (6 oz.).

Bread as at dinner, 60 gms., (2 oz.).

Butter, 10 gms., (⅓ oz.).

Cream or Cottage cheese, 60 gms., (2 oz.)

Milk as at breakfast, 221 cc., (7 oz.).

(Diet 4 supplies about 70 grams of protein and about 1800 calories, and about 1500 cc. of water. Extra water may be taken as wanted unless specifically prohibited or limited.)

No. 4A

The same as 4 with feedings of milk as at breakfast, 240 cc., (8 oz.), at 10 a. m. and 4 p. m.

(This modification adds about 15 grams of protein and about 300 calories.)

No. 4B

The same as 4 with addition of bacon, 30 grams, (1 oz.), fried, to breakfast every day, (or a specified number of times a week).

(This modification adds about 5 grams of protein and about 150 calories.)

No. 4C

The same as 4 with addition of one egg, poached, to breakfast, every day, (or a specified number of times a week).

(This modification adds about 7 grams of protein and about 7o calories.)

No. 4D

The same as 4 with addition of boiled, broiled or roasted beef, mutton, lamb, chicken or fish, 60 grams (2 oz.), to dinner every day, (or a specified number of days a week).

(This modification adds about 15 grams of protein and about 150 calories.)

No. 4E

The same as 4 with addition of orange, grape fruit, peach, muskmelon, or baked apple, (or other specified fruit), to breakfast and supper.

No. 4F

The same as 4 with addition of salad of raw cabbage or lettuce, with olive oil or lemon juice, to dinner or supper.

DIET No. 5

"House Diet"

DIET No. 6

(Special—Typhoid Fever)

At 6 a. m., the following mixture: milk, 135 cc., (4½ oz.), cream, 30 cc., (1 oz.), Mellin's Food, 15 gms., (½ oz.), barley water or strained oatmeal gruel, 45 cc., (1½ oz.).

At 8 a. m., the same as at 6 a. m.

At 9 a. m., the following mixture: strained juice of orange, grapefruit or pineapple, 60 cc., (2 oz.) lactose, 30 gms. (1 oz.), water, 150 cc., (5 oz.).

At 10 a. m., the same as at 6 a. m.
At 12 m., the same as at 6 a. m.
At 1 p. m., the same as at 9 a. m.
At 2 p. m., the same as at 6 a. m.
At 4 p. m., the same as at 6 a. m.
At 5 p. m., the same as at 9 a. m.
At 6 p. m., the same as at 6 a. m.
At 8 p. m., the same as at 6 a. m.
At 9 p. m., the same as at 9 a. m.
At 10 p. m., the same as at 6 a. m.
At 12 m., the same as at 6 a. m.
At 4 a. m., the same as at 6 a. m.

Everything to be taken through a tube.

(Diet 6 supplies about 75 grams of protein, about 2,500 calories, and 3,300 cc. of water.)

Diet 6 may be modified by changing the proportions in the milk mixture, by substituting lactacidized milk for a specified number of the milk feedings, by substituting plain or peptonized milk for the milk mixture, by omitting the cream or substituting milk for it in the milk mixture, by omitting the Mellin's food, by substituting barley water exclusively for the milk mixture, by omitting some or all of the fruit juice feedings, by adding five or ten grains of sodium bicarbonate to each of the milk feedings, by substituting oat meal jelly or junket for a specified number of the milk feedings, by substituting clear beef, chicken or clam broth for a specified number of the milk feedings, by adding a small amount of coffee to flavor a specified number of the milk feedings, by diminishing the number of feedings or lessening their quantity, by omitting all food except water, etc.

DIET No. 7

(Special—Gastric Ulcer)

Milk diluted with one-third its volume of barley water or other similar cereal decoction or gruel; or, if preferred, plain milk; 150 cc., (5 oz.), at 7 a. m., 8 a. m., 9 a. m., 10 a. m., 11 a. m., 12 m., 1 p. m., 2 p. m., 3 p. m., 4 p. m., 5 p. m., 6 p. m., 7 p. m., 8 p. m.

(Diet 7 supplies between 50 and 70 grains of protein, and between 1,000 and 1,400 calories.)

No. 7A

The same as 7 with substitution of the following mixture: strained juice of orange, grapefruit or pineapple, 60 cc., (2 oz.), lactose, 15 gms., (½ oz.), water 120 cc., (4 oz.), for the feedings at 8 a. m., 12 m., 4 p. m., and 8 p. m.

No. 7B

The same as 7 with a feeding of olive oil, 30 cc., (1 oz.), at 10 p. m.

Diet No. 8

(Special—Pneumonia)

At 7 a. m., milk diluted with one-third its volume of barley water or other similar cereal decoction or gruel, to which has been added sodium bicarbonate, ⅓ gm., (5 gr.), and sodium chloride, ⅓ gm., (5 gr.), 217 cc., (7½ oz.).

At 8 a. m., calcium chloride, ⅔ gm., (10 grs.), dissolved in water, 150 cc., (5 oz.).

At 9 a. m., the same as at 7 a. m.

At 10 a. m., the following mixture: strained juice of orange, grapefruit or pineapple, 60 cc., (2 oz.), lactose, 20 gms., (⅔ oz.). water, 150 cc., (5 oz.).

At 11 a. m., the same as at 7 a. m.
At 12 m., the same as at 8 a. m.
At 1 p. m., the same as at 7 a. m.
At 2 p. m., the same as at 10 a. m.
At 3 p. m., the same as at 7 a. m.
At 4 p. m., the same as at 8 a. m.
At 5 p. m., the same as at 7 a. m.
At 6 p. m., the same as at 10 a. m.
At 7 p. m., the same as at 7 a. m.

Everything to be taken through a tube, the patient retaining the horizontal position.

(Diet 8 supplies daily about thirty-eight grams of protein, fuel of a value of about 1,200 calories, and 3,000 cc. of water. It is a maximum diet except as regards water, which may be given freely as desired)

Diet No. 9

(Special—Rectal Feeding I)

At 6 a. m., the following mixture in an enema: Glucose, 30 gms., (1 oz.); strained juice of one half orange, or an equivalent amount of strained grape fruit juice; sodium bicarbonate, 2 gms., (30 grs.); sodium chloride, 1½ gm., (22 grs.), and water to make 300 cc., (10 oz.).

At 10 a. m., the same as at 6 a. m.
At 2 p. m., the same as at 6 a. m.
At 6 p. m., the same as at 6 a. m.
At 10 p. m., the same as at 6 a. m.
At 2 a. m., the same as at 6 a. m.

The enemas should be introduced at a temperature of 100 F., and slowly, and the buttocks should be elevated, and the patient should lie on his right side for an hour.

(Diet 9 supplies fuel to the amount of about 700 calories, salts and vitamines, water to the amount of about 1,800 cc., but no protein.)

Diet No. 10

(Special—Rectal Feeding II)

At 6 a. m., the following mixture in an enema: glucose, 30 gms., (1 oz.) strained juice of one half orange or an equal quantity of strained grape fruit juice; sodium bicarbonate, 2 gms., (30 grs.); sodium chloride, 1½ gms., (22 grns.), and water to make 300 cc., (10 oz.).

At 8 a. m., Skimmed milk, thoroughly pancreatized, 150 cc., (5 oz.), in an enema.

At 12 m., the same as at 8 a. m.

At 4 p. m., the same as at 6 a. m.

At 6 p. m., the same as at 8 a. m.

At 10 p. m., the same as at 6 a. m.

At 12m., the same as at 8 a. m.

Every second day, at 4 a. m., a colonic irrigation with physiologic sodium chloride solution, with omission of the glucose enema at 6 a. m.

The enemas should be introduced at a temperature of 100 F., and slowly, the buttocks should be elevated, and the patient should lie on his right side for an hour.

(Diet 10 supplies 20 grains of protein, presumably in the form of amino acids, fuel of the value of about 700 calories, salts and vitamines, and water to the amount of about 1500 cc.)

No. 10A

The same as 9 with omission of the glucose enemas and increase in the number of pancreatized milk enemas to six daily, given at four hour intervals.

Extras

(The articles mentioned in the following list can on occasion be prescribed as extras in connection with the foregoing prescriptions. Some of them are approximately equivalent to articles mentioned in the prescriptions; others are distinctly different; and those classed as adjuvant foods have a use practically as drugs.)

Milk preparations: Koumyss, Kephir, buttermilk, whey, malted milk; junket, condensed junket, Irish moss blancmange; peptonized milk slightly sweetened and frozen; cheese, viz., American Cheddar, Swiss, Edam, Parmesan.

Flesh foods: Turkey, guinea fowl, oysters; ham, dried beef, salt codfish.

Cereal preparations: Cracked wheat, hominy; rye bread, knäckebrod, bran crackers, bran muffins, bran; gluten bread, gluten cakes; puffed rice, puffed wheat, corn flakes, shredded wheat; zwieback; crackers, viz., milk, soda, graham and oatmeal.

Vegetables: Sweet potato, asparagus, oyster plant, lima beans, chard, endive, parsnip, onion, cucumber, green corn, beets, cauliflower.

Fruits: Pineapple, grapes, plum, pear, apple, banana, cherry, lemon, tomato, huckleberry, olive, apricot, prunes, prunelles, raisins, dates; also any of these fruits stewed.

Nuts: Chestnut, walnut, hickory nut, almond, pignolia, cocoanut.

Desserts and Sweets: Sponge cake, ginger bread; puddings, viz., custard, farina, cornstarch, rice, bread, sago, tapioca (with or without fruit); ice cream; jellies, viz., lemon, orange, apple, quince, guava; honey, maple syrup, sugar.

Adjuvant foods: Coffee, tea, cocoa, chocolate; animal broths, viz., beef, mutton, lamb, chicken, oyster and clam; brandy, whiskey, wine, beer.

EDITORIAL

THE AMERICAN COLLEGE OF PHYSICIANS

THE ANNOUNCEMENT that the next Convocation of the American College of Physicians, in connection with the Meeting of the American Congress of Physicians, will occur on the 23rd of February, serves to call attention to an organization which should have a brilliant future.

When the American College of Surgeons was established, much criticism was heard because of the un-American distinction which it proposed to confer and many illnatured things were said when its list of members was announced. Wisely or otherwise the College of Surgeons chose to be very catholic in their choice of members and included a great many men whose claims to purely surgical distinction were doubtful to say the least. But it was thought to be wiser to use the influence of the College to raise the standard of surgical requirements among its members, and thus make its influence more widely felt. Criticism of the American College of Physicians in certain quarters has been even more unkind, and much has been said in certain quarters reflecting on its need for existing. It has been said that the American Medical Association offered every opportunity for scientific advancement that the College could possibly offer, and other equally unfavorable comments have been made. Be that as it may, the College has been in existence some years and has been gaining in prestige, though slowly. It has been hard to interest leaders among internists, but since the war has ceased, a new interest has been aroused and the active leadership of its president and his unquestioned standing among internists has given an impetus to the College that promises well for the future.

The program that is promised for the Chicago meeting is an exceedingly interesting one and will well repay the very moderate fee that is asked for participation in the Congress. There will be a week of clinical medicine in Chicago in which all of the principal hospitals will participate in addition to the formal meetings which will be held in the evenings. An enjoyable social program is also promised.

It is understood that next year the Congress will publish a magazine of purely medical abstracts and that a fee of $12.00 will include membership in the Congress and subscription to the magazine.

Fellowship in the College is secured after proper nomination and consideration by the Council. One may prophesy that it is an honor that will be greatly sought as soon as the real value of the American College of Physicians is recognized.

H. G. W.

A NEW NUTRITION CLASS AT THE BROOKLYN HOSPITAL.

ANYONE who has served in a childrens' clinic realizes that there is a large percentage of cases that refuse to improve beyond a certain point considerably this side of complete recovery. Medicines, and such directions as we can give regarding proper food and hygienic conditions, seem helpless to carry the child further. Such children, if one takes the pains to weigh and measure them, will be found to weight far less in proportion to their height than the average child does at the same age. Wm. P. R. Emerson, of Boston, goes so far as to say that one-third of our total child population belongs to this group of under-or mal-nourished children, with weights at least 7%, and often 10% or more, below the average. It is for such children as these that the Nutrition Class has been established, and has quickly come into its own as an indispensable part of the up-to-date children's clinic. Emerson has found, and the records of the Nutrition Class established at Bellevue by Charles Hendee Smith bear out the statement, that practically all of these children can be made to gain enough to bring them up to the normal or average weight for their ages, providing certain conditions can be fulfilled. But these conditions can not be brought about through the ordinary medical pediatric clinic. They require the application of the joint forces of medicine, social service, and class appeal, if you will,—and the application of these in the proper proportions has resulted in the evolution of the Nutrition Class, as seen today in operation in the more advanced hospital clinics. Here, each child is given a searching physical examination, with a view to determining any defect that may be a contributory cause of his failure to gain; and his history, in great detail, is taken by a volunteer aide. An important part of the record is the weight and height, and their progress from week to week, as plotted out on a large graphic chart, where it is easy to make comparisons, favorable or otherwise, with a normal line. Each child is brought under the purview of a trained social service worker, in his home environment. She makes an initial visit to the home, and such follow-up visits as may prove desirable. She instructs him, and his mother, how to carry out improvements along lines sanitary, hygienic, dietetic, and culinary. Each child is appealed to, by way of his love of teamplay with his fellows, his delight in competition with them, and his desire for rewards, to do his best to carry out the little things that spell success in the game that they are all playing,—success as expressed in terms of pounds and ounces gained, with all that that means in general health betterment. The Nutrition Clinic, then, is the place where all the forces that go to make for better health are focussed on the child.

There are three institutions which may well house the Nutrition Class. They are the school, the settlement house, and the hospital dispensary. Because the sufferers from this clinical entity, malnutrition, just beginning to be recognized and treated as such, are congregated in the school, (and many of the causes of its creation and perpetuation are in operation there,) the public school may well be chosen as the place for this remedial agency to function. Emerson's first public demonstration of his work with undernourished children was done in a few picked schools in the East end of Boston and the East Side of New York, ably seconded by the School Lunch Committees. Inasmuch as the problem is quite as much a social as it is a medical one, the settlement house and the A. I. C. P. have both established clinics,—although, for the matter of that, the children of the wealthier classes have been found to furnish the same proportion of cases as do those of the very poor! But, since practically the first thing to be done, before one can hope for a gain in these cases, is to remove the flagrant physical defect that is almost sure to be present (carious teeth, diseased tonsils and hypertrophied adenoids are the commonest offenders), or else improve it as much as possible (endocarditis, tuberculosis,—and hypertrophied lymphnodes come a close second), the hospital, through its children's clinic, would seem to be the ideal home for this form of effort.

The Massachusetts General in Boston and the Post Graduate and Bellevue in New York, have been the pioneers in these cities. In Brooklyn, the Brooklyn Hospital has been the first to render the larger service made possible by the addition of the Nutrition Class to the other departments of its pediatric service. The volunteer workers who take the histories and weigh and measure all cases coming into the clinic refer to the Nutrition Class all children that are 7% or more underweight. Unlike the procedure in the the case of the Cardiac Class, or other departments, this does not transfer the child from the medical pediatric service proper; he is still carried there, and there treated for whatever condition brought him in. Teeth, nose and throat, or heart are attended to in the appropriate rooms, while the nutrition is seen to in the Class. Propaganda posters, large individual record charts, wax models of foods, and small rewards, are used as supplementary to the efforts of the doctor who talks to the children (and as many of the parents as can be induced by the visitor or the children, to attend), in the big waiting room; while the rest of the physicians examine the new cases and weigh the revisits in the examining rooms. A good Boy Scout Master usually proves a valuable Nutrition Class leader,—the appeal is of much the same order. One session a week is sufficient for a successful class; later on, as the weight increases, the child is told to come once every two, or it may be three, weeks. The social worker, with her reminder post-cards and her follow-up visits, is a tower of strength in keeping up the attendance.

The Government at Washington, through its Child Welfare Bureau, is already attacking this problem along a wide front by enlisting the teachers of the country in a health campaign. We shall hear more and more of the malnourished child, in the months to come, and of efforts to bring him up to normal. No hospital can afford to attempt work among children without its Nutrition Class.

Frank Howard Richardson.

HEALTH INSURANCE AND THE NATIONAL CIVIC FEDERATION.

ONE cannot too strongly recommend to the careful consideration of every voter, lay and professional, a pamphlet recently published by the National Civic Federation entitled, "A Refutation of False Statements In Propaganda for Compulsory Health Insurance." The material it contains is a carefully considered analysis of public statements made by various proponents of State Health Insurance as embodied in the various bills that have been presented at Albany in the last three or four years. The propaganda of which these statements form a part has been a peculiarly unfair presentation of a subject that has been thrust forward in such a way that the burden of proof has been shifted from the proponent and there is substituted for it the burden of disproof by those who oppose it. There has been created a certain artificial atmosphere in which the working people are represented as demanding health insurance, when the actual demand rests upon a few doctrinaires and a political group who do not seem to have fully grasped the essentials of the objects toward which they are bent.

The matter has been repeatedly agitated by this Journal and the Editor has been largely interested, in the beginning because of the opportunities for social betterment which Health Insurance offered, but later, as his perceptions grew, by the evident disadvantages which surround the scheme. The pamphlet just referred to is too pithy to permit of being digested. Everything that it contains has so intimate a bearing upon the subject that it must be read in full and should be memorized in order to be applied in argument and it is the duty of every physician to qualify himself to talk intelligently upon this subject, which is so vital to himself and to his profession. Should he have failed to receive a copy of the pamphlet, an inquiry addressed to the National Civic Federation, 33rd Floor, Metropolitan Tower, New York City, will bring one. H. G. W.

REPORTING PNEUMONIA.

ALTHOUGH the title might suggest that this was a new form of pulmonary disease characterized by explosive sounds somewhat like that remarkable form of gas gangrene, which one of the daily papers described during the war, announcing that at the end the patient blew up with a loud explosion, the caption refers not to clinical manifestations, but to professional duties.

In a conversation with one of the higher officials of the Health Department, it was pointed out that influenza, lobar and broncho pneumonias had been placed among reportable diseases as soon as it became evident that concerted effort was required to control the awful epidemic of 1918 and 1919. It is quite evident that only by cooperation with the constituted authorities may the profession hope to arrive at any logical means of prophylaxis against the possible return of influenza and it is equally patent that the profession is earnestly desirous to use every means in its power to forestall any such frightful outburst as signalized the last epidemic.

The Department has already announced in the November number of its bulletin its earnest desire to gain the goodwill and wholehearted cooperation of the profession in its prophylactic work, but it is a question how fully the profession as a whole appreciates the value of the bulletin and how carefully it is read.

Of course, there is a penalty for failure to report disease, and of course it is the most natural thing in the world for human beings to be antagonistic as soon as they are threatened with a penalty. Wherefore the Journal takes pleasure in pointing out to its readers that it is their *privilege* as stewards of the public health to cooperate with the Health Department, at this time particularly, by making it a point to report all cases of influenza and various types of pneumonia, in order that every possible effort may be made to prevent a recurrence of the catastrophe of last year. H. G. W.

Society Transactions

TRANSACTIONS OF THE BROOKLYN SURGICAL SOCIETY.

Regular meeting of the Brooklyn Surgical Society, held at the Build-
Thursday, October 2nd, 1919, at 8:30 p. m.
The President, James M. Downey, M. D., in the Chair.
ing of the Medical Society of the County of Kings, 1313 Bedford Avenue,

Program.

Case Reports:

1. Acute Intestinal Obstruction, due to adherent Meckel's Diverticulum.
2. Dislocation of Semi-Lunar Bone.

Joseph Tenopyr, M. D.

Case 1 discussed by Drs. Roger Durham, Richard W. Westbrook, Frank D. Jennings and Joseph Tenopyr.

3. Fractures of the Skull—Demonstration of instruments used in operative work on the skull.

Discussion by Drs. Frank D. Jennings and Silas C. Blaisdell,

Silas C. Blaisdell, M. D.

Discussion by Drs. Frank D. Jennings and Silas C. Blaisdell.

Paper:

The Empyema Problem.

William Francis Campbell, M. D.

Discussion by Drs. Thomas B. Spence, Robert F. Barber, J. Sherman Wight, Walter A. Sherwood, Silas C. Blaisdell, Frank E. Brown, J. Bion Bogart, Charles H. Goodrich, John E. Jennings, John A. Lee, Dr. Harlow and Joseph P. Murphy.

JAMES M. DOWNEY, M. D. President.

FRANK D. JENNINGS, M. D., Secretary.

Fractures of the Skull—Demonstration of Instruments Used in Operative Work on the Skull.

Silas C. Blaisdell, M. D.

You all know that I started in quite a while ago with quite radical procedures on the skull, so much so that I read a paper before the Kings County Medical Society in 1900 and I hadn't a friend on earth. I don't know whether there is any gentleman present tonight who was present on that occasion, but if there is, he certainly should remember it because no man was ever torn up the back the way I was, but I was very glad I was, and that is what I expect tonight, and, in fact, hope you will handle me the same way this evening.

In fractures of the skull I do not think we do our duty by our patients, if there has been sufficient violence done to the skull to fracture it, unless we explore and find out the true state of affairs, because a cut through the skull is a very simple thing. If you find you are dealing with a fracture, set your trephine, remove the fractured bone and throw it away: don't put anything back in its place and your patient will get well.

At the time I speak of (1900) I filled the room in the old Court street building, I think it was, with about 50 or 100 cases in order to show the outcome of the operation. And I contended then, as I do now, that epilepsy following fracture of the skull is the fault of the surgeon. I do not think he should leave any more to guess work in the skull than he should in the abdomen. I do not think the invasion of the skull itself (I am not speaking now of brain surgery) is fraught with any more danger than the invasion of the abdomen—not a bit.

The average time of my cases in the hospital has been twenty-two days and I have never had one case of impaired mentality.

I want to show you a piece of bone that I took out of a man's head, who entered the hospital at 9:00 o'clock in the morning with continuous epileptic seizures and died at 1:00 o'clock. As you will notice here, the elevation of that skull was done beautifully because a better surgeon (Weir) never lived than the man who did that, but he satisfied himself with elevation alone. You can see what happened to the inner table in this case and what produced the epilepsey which killed the man. When elevating the external table he failed to elevate the internal table. You can see how the inner table is cracked here and how part of it has been absorbed, making an indentation on the brain with resultant pressure and the production of epilpesy. I will be able to show you a picture of the surface of the brain.

I believe it is conceded that epilepsy comes from cortical irritation, unless there is some new theory which explains it, of which I know nothing.

I shall now attempt to illustrate by means of the photographs which I have here a few of the cases which I have had in my experience.

This picture shows the bone removed over the lateral sinus.

These two go together because the one picture was not sufficient to show the both sides where we cut completely across the top of the head, cutting out the fracture and taking the bone away.

This shows the amount of skull taken away, and this picture here is a remarkable one from the medico-legal standpoint in cases of fracture of the skull. This man was struck at 3:00 o'clock in the afternoon (he was a Norwegian sailor). His skull was broken, but, of course, they did not know it. He worked until 6:00 o'clock, "ate his 'grub' and 'turned in'" as he put it. The next morning he was found unconscious and was brought to the hospital. This case, as I have said, brings up a very interesting medico-legal question. Many a man receiving a blow on the head sufficient to produce a fracture of the skull, as this case was produced, with an interval of three hours, brings up the very interesting question as to how far he could have walked in the space of three hours. Therefore, if this was a crime, we would be looking for the perpetrators of the crime at the place where this *man was found and not at the place of injury.* To come back to the operative procedure in this particular case. I cut in here (you will notice the scar) and took out quite a large portion of the skull. (It was not a compound fracture.) I took out quite a large clot of blood, about 3 or 4 ounces. That man regained consciousness inside of three hours and in nineteen days he left the hospital and went aboard his ship in perfect condition.

This here is rather remarkable, the entire roof of the orbit taken out with the superciliary ridge taken out also, with no dropping of the eye.

This is a peculiar case almost half of the skull has been taken away.

This is over the motor area and over the left side with loss of brain substance, with perfect recovery.

They only have interest on account of their being in the forbidden parts of the skull.

I must say that I find even surgeons of to-day dread those sinuses, but I do not see why they should.

The first of the instruments that I want to show you gentlemen is the knife. I think one of the great points in skull surgery is speed. You have to let quite a bit of blood, but I never object to the letting of blood because they make that blood up slowly and they get well better. I made the knife with a very flexible handle. You take your knife this way (illustrating you don't change your instrument for an elevator), make a clean sweep and before you can say "scat" you are in. I usually make the circular incision. I do not care for the up-and-down incision, although I admit it makes for a little less work. As you have gotten through, one of the oldest instruments in the whole of surgery is the trephine. This one has no center pin and, as they tell you of most of the machines, it is foolproof because you can go through there and you cannot go into the brain. Take the center pin, especially in the case of children's skulls, which are extremely thin, if you are not very very careful, the pin will go through and wound the brain when it is unnecessary.

You will notice this has a collar on the outside of the trephine, with a spring set above, allowing it to push down through, the collar being held by three spuds on the skull, and that holds the collar still until the instrument make its cut in the skull; then this is removed and you go ahead. The teeth of the instrument are made the same as a cutting-off saw, not as the old instruments were made, like a rip-saw, and it cuts both ways and very speedily, too. In the case of the common rongeur the hands of the large percentage of surgeons are not sufficiently strong to operate it. It is all right if you have the strength. But this instrument has much better leverage, and, further, you are operating at an angle of 20 degrees and it jumps it right up through, and that makes you very speedy also.

These two clamps, instead of retractors, are put one on each side. They retract and act as hemostats at the same time.

Those are the four instruments I use, and they originated with me.

I want to read one case from this old copy of the Brooklyn Medical Journal which I reported:

"W. U., a brakeman, fell from a car, striking his head against the rail. When brought in, be was comatose, but regained consciousness. The diagnosis of fracture of the skull being made, operation was performed, revealing a fracture of great extent, starting from the left side about three fingers' breadth above the ear on a line a little anterior to the ear, running backward through the parietal and occipital bone, encircling the skull to about one finger's breadth posteriorly, lower on the right side than on the left, and nearly over the lateral sinus.

"This enormous crack was still further enlarged with the rongeur and many spiculae and fragments were removed.

"Time of operation, 22¾ minutes.

"The patient made a good recovery and was discharged in twenty-two days."

Dr. Frank D. Jennings:

"Would Dr. Blaisdell make clearer what he means when he speaks of following up the fracture. As I understand it, he makes an exploratory incision and exposes the line of fracture and then pursues every inch of the fracture, wherever it may go, with the ronguer, taking out a tract of bone the width of the rongeur. If you would make that a little clearer, doctor, I would appreciate it."

Dr. Silas C. Bliasdell:

"When you consider the anatomy of the skull, the porous and elastic external table and the very friable and brittle internal table, you can understand that any violence applied to the cortex will not only crack the outer table, but it will splinter the inner table as well, and even without cracking the outer table you can splinter the inner table, when the violence has been great enough. There is no way of finding that out except by cutting through the skull and in cutting that out you don't do any harm to speak of. That is, if you are a moderately rapid worker. With this rongeur at an angle of 20 degrees with your hand this way (illustrating), it makes you extremely rapid, and in the case of this man that I operated on here I cut a piece of his skull afterwards and that groove was united with bone, the first I have seen, but where you take it out and throw it away, the repaired skull is like a bass-drum head, hard, dense, strong and all right, presenting a smooth surface to the cortex. If you undertake to put anything in there, nature will treat is as a foreign body. It is essential that the fractured bone be cut away. I have gone within a half-inch of the foramen magnum and they got well. It is all right. I went up to 281 cases in 1900 with a death rate in cases of fracture of the skull of less than 6 per cent.

"Cut it out and don't be afraid of it."

Acute Intestinal Obstruction, Due to Adherent Meckel's Diverticulum.

Joseph Tenopyr, M. D.

W. R. 29 years old, male.

Previous personal and family history is irrelevant to present condition.

Present History. On July 30, 1919, patient was thrown from a truck and landed on left hand in outstretched position. Patient was seen on August 1, 1919 by author. He presented the following symptoms.

The region about the wrist was swollen and tender. The fingers of the hand were semiflexed and any attempt to extend fingers was attended with a great deal of pain. The head of the third (middle) meta-carpal was less prominent than the two adjacent ones.

X-ray findings show a dislocation of the semilunar bone. The articular surface which normally joins the osmagnum is pointing toward the palmar surface of the wrist.

On August 3, 1919. An attempt was made to reduce the dislocation under Ether. This attempt failed.

On August 25, 1919. Patient was re-admitted to the hospital.

On August 26, 1919. Incision was made over swelling on anterior or palmar aspect of wrist. Median nerve was exposed and pushed to one side. The semilunar bone was readily brought to view by retracting the flex or tendons of the wrist joint. The semilunar surface which articulates normally with the osmagnum was plainly visible. The semilunar bone was removed without difficulty. The wound was sutured and the hand was placed in a cock up splint with full extension of the wrist joint. Healing took place by primary union.

Passive motion was started September 5, 1919.

Replacement of the semilunar bone had seemed impossible because the space from which it had been dislocated seemed quite obliterated and it appeared to me as if it would cause less trauma to take the bone out than try to replace it.

M. M. age 13 years male.

Previous and family history negative as to present condition.

Present History. Patient became ill on August 9, 1919 with pain in the abdomen and vomiting.

Admitted to hospital August 12, 1919.

The following are the notes on the history:

On admission patient had the appearance of being generally septic. Not in extreme pain.

Eyes: Bright and anxious.

Tongue: Coated heavily and brown in appearance.

Lung: Negative.

Heart: "

Abdomen quite full and distended; slight rigidity throughout and greatest in right lower quadran. Pain marked over McBurney's point. No peritoneal reflex.

Diagnosis Acute Appendicitis.

September 12, 1919, 10 p. m. Boy has rose spots on right side of abdomen. Blood count is 8,6$$; Polymorphonuclear cells 73%; Small nuclear cells 26%; Large Mononuclear cells 1%. No shifting abdominal dullness. Child falls asleep during examination. Is nauseated. No peritoneal reflex.

The author saw the patient on September 14, 1919, in the afternoon. Patient presented the appearance of a marked taxaemia, was drowsy and slightly delerious, complained of intermittent abdominal pain. Tongue dry.

Physical examination of Heart and Lungs negative. Abdomen distended and tender to palpation. Peristaltic waves visible on abdomen.

Diagnosis of intestinal obstruction due to Meckel's Diverticulitis was made and immediate operation recommended.

Operation August 14, 1919.

Incision was made in the left rectus muscle. On opening the peritoneal cavity, free fluid was encountered. About 4 feet from the ileo cecal valve a projection of about one inch was encountered in the small intestine. This elongation was adherent to the mesentery of the small intestine dragging on the intestine in such a way as to obliterate its lumen. This diverticulum was freed from the mesentery. Gas began to pass immediately into the collapsed portion of the bowel. The question of whether to resect the diverticulum or invaginate it into the lumen of the bowel presented itself. We all know that resection is the proper procedure but this patient had been sick since August 9th, for five days and he was very toxic. So I placed a purse string suture around the base of the diverticulum and turned it into bowel. A second purse string was placed to reinforce the first. Peritoneum was closed with a plain catgut suture fascia with chromic catgut number two. Retension sutures of silkworm gut were placed under the fascia and skin was closed.

The patient was seen on September 22nd. and appeared in good health. X-Ray of his small intestine showed it to be empty in about six hours.

Dr. Roger Durham:

"I would like to ask Dr. Tenopyr for information. On what smyptoms did you make a diagnosis of diverticulum?"

Dr. Richard W. Westbrook:

"I would like to refer to another point in the diagnosis of obstruction in the case of children from this cause. I have seen a half-dozen cases of obstruction due to Meckel's diverticulum. They have all been in adults, and in two instances in quite old adults. One was over 70. I have never seen a case in a child. I should be interested to know whether others have seen intestinal obstruction due to this cause in children. Although I am not familiar with, or, rather, do not recall the statistics in the matter, the fact of its being a child would be against Meckel's diverticulum being the cause of obstruction, according to my experience."

Dr. Frank D. Jennings:

"I saw a case of obstruction due to an adherent diverticulum about nine years ago, in a child of 8 years. Strangely enough, the child's name was Meckel, which should have made the diagnosis easy. The child came in late. The condition was not exactly of the type that Dr. Tenopyr has reported.

"In the case I speak of the tip of the diverticulum was adherent to the parietal peritoneum of the anterior wall, and loops of small intestines had slipped under it. The obstruction was relieved and the diverticulum resected. Death ensued in a few hours.

Dr. Joseph Tenopyr:

"This youngster I felt had an obstruction of some type or other which was slow in coming on. The question of obstruction was plain. There wasn't any question about that. You could see the obstruction as soon as you took the bed-clothes off. The question, of course, arose as to what was doing the obstructing. He had no history of any mucus stools at all, so, from that alone, I ruled that he didn't have an intussusception. He had no tumor of any kind that could be felt, so that, in reviewing all the possibilities, the only thing that was left was the possibility of a diverticulum. If he had had mucus stool, or had had a tumor of some type, or the thing had been more violent, I would have said it was due to intussusception or volvulus, or something of that type. That was what made me feel it was a diverticulum."

Dr. Roger Durham:

"With a possible appendix?"

Dr. Joseph Tenopyr:

"No, for you could see the intestines all around: you could see the obstruction. That ruled itself out when you took the bed-clothes off. The leukocyte count was against that. It was only 8,000, with 70 some odd polys."

Paper: The Empyema Problem.

(See page 1.)

Dr. Thomas B. Spence:

"It was my good fortune to be sent to the base hospital at Camp Lee at the time the Empyema Commission arrived.

"After being there a month, I was put in charge of the surgical service, and at that time I turned over all of the empyema cases to this Commission and made them responsible for the care of those cases. I had, therefore, an opportunity of observing the work of this very learned Commission. It had men who were honestly looking for the truth, and who were faithful in their work. Men like Moskowitz, Mitchell, of Washington, and Graham, of Chicago, spent their whole time in the ward, and it was a mighty interesting thing to go in there and watch the careful way in which they treated these cases of empyema.

"Dr. Campbell has summed up the results of their work in a few words. It does look to me—it did look to me at the end of this work when 123 of these cases went away in one day on a train, that the old established methods of treating empyema were the ones that were going to stay.

"They tried out Dakin's solution very thoroughly. I think they were more enthusiastic over Dakin's solution in empyema than I was. I believe, from the reading of their reports, that they remained a little more enthusiastic over the use of Dakin's solution than I have felt, and when it comes to the question of irrigation, I believe, although they have not said so, they proved very thoroughly, for once and for all, that irrigation of empyema cavities is a harmful thing, if you make a distinction between instillation with Dakin's solution and irrigation of an empyema cavity. They lost two cases in the wards at the base hospital at Camp Lee from such irrigation. I think that fact cannot be heralded too widely because I am sure that we all would feel if we were to read these reports recommending irrigation of empyema cavities, I think we would all feel that this Commission, which has done its work so carefully had come to the conclusion that empyema irrigation was a safe procedure. They proved that it was not.

"One great thing it seems to me that was gained in the study of empyema during the winter of 1917 and 1918 was the very great assistance rendered by the x-ray in the matter of diagnosis. It was shown to us, over and over again, that the diagnosis of empyema isn't always an easy thing, especially in those cases which were the predominating ones at that time, namely, the hemolytic streptococcus cases. Those cavities were sometimes multiple, they were often small, they were in any portion of the pleural cavity, and many many times they were extremely difficult of diagnosis. The x-ray was nearly always a help and without it was sometimes a matter of extreme difficulty to learn where the pus lay.

"In conclusion, I think it is wise for me to repeat that I am thoroughly in accord with the conclusions that Dr. Campbell came to, and that we very largely are going to depend upon the old established methods in the treatment of empyema."

Dr. Robert F. Barber:

"It has been my privilege to see some of these cases that have been treated by this modified Walter Reid technic, and also to see a large number of the cases in France in the American Expeditionary Force. One or two things occurred over there that made me skeptical about this new treatment at first.

"In the men that recovered from empyema in our hospital there was a large percentage that came up for survey, and they were surveyed home because of curvature of the spine. The curvature of the spine was the result of resection of the ribs in practically every case. The collapse of the lung on the affected side probably also had something to do with it, but these men as they would stand up stripped for survey presented a striking picture. Case after case came in recovered from operation, with no sinus and apparently able to go back to work, yet on examination it was noted that one shoulder was up and the other shoulder down, the opposite side accommodating itself to the resection of the rib or ribs.

"Another observation was this, that no matter what you do in the chest the minute the chest is entered by either the scalpel, the trocar, or even the aspirating needle, there is an element of danger. There were two cases, not seriously ill, that were aspirated in our hospital and both of these cases went into shock after the aspiration. No air was admitted when the syringe was applied, the syringe plunger was down, and simple aspiration of the chest to determine whether there was fluid at a given spot caused the patients to go into shock. Both patients died. I do not remember the autopsy findings on the second case, but I do remember them on the first case. We were unable to determine the cause of death in that case. There was no gross pathology in the lungs to account for it, no accumulation of pus, no gross disease anywhere, and the blood-vessels about the heart and lungs and the brain were apparently normal. We did a complete autopsy on the case. As a result of these two cases we came to the conclusion that it is not an operation that is unattended with risk, and that even to put a needle into the thoracic cavity for diagnostic purposes is dangerous and should be avoided wherever possible.

"The X-ray, of course, is satisfactory in most cases.

"In the hospital over there the operation that was done was the operation that has been advocated tonight as the result of the experience of the Commission—rib rescetion practically in every case, and, in a few cases, simply the section between the ribs.

"The mortality in the series of cases treated at the hospital was not high. The final statistics I do not know, but at the time I left the mortality was not over 15 per cent., and that in a series of 200 or 300 cases.

"I came back with the conviction that resection was a good procedure, that the operative results were satisfactory. I remember one day Finney came into the ward and looked over the empyema cases (the ward was full at the time; there were, I believe, about 40 patients in one ward). He asked what operation was being done for the empyema cases and we told him and asked if he had anything to suggest. He went over the statistics of our mortality with us and said he would advise that we continue with what we were doing.

"At the Long Island College Hospital we had a number of cases which were seriously ill and which were not good operative risks. They were treated by this catheter operation, which is attended with less surgical risk. The complaint might be made that a few of them did come to rib resection, but they came to rib resection at a time when they were well able to stand rib resection. The operative mortality from this procedure was practically nil and those cases that came to rib resection later as a result of failure of this method of drainage, did not die as the result of the operation.

"I believe that the method will reduce the mortality if it is used as a conservative thing and that, finally, it should not be used on every case for all time."

Dr. J. Sherman Wight:

"As I followed the principles laid down by the Empyema Commission, they state that the closed operation is the operation to do in certain cases, and the doubt seems to be as to whether to do the closed operation or the open operation in other cases. After the chest cavity has been well walled off, the open operation is a perfectly safe and proper procedure, especially in cases of chronic empyema.

"Now, to speak of the closed operation as it was worked out at The Long Island College Hospital, it is, as the reader of the paper has said tonight, a combination of the Phillips method and the Walter Reid Hospital method, and it was worked out step by step, and there were three difficulties to be overcome. One of the difficulties was the sealing of the chest wall so as to obtain negative pressure and maintain negative pressure. There was a good deal of trouble about the leak around the tube and that marked the evolution of the button, or shield, that was used. Strips of adhesive plaster were placed over the rubber shield in order to seal the chest wall. The glue was first placed between the chest and the shield, and over the shield a thin sheet of rubber was stretched, with a hole in the middle for the tube to go through, and adhesive plaster was placed over that. Then a pad, with a hole in the middle, was placed over that and adhesive plaster again over that. That held for some time, but, after a while, the thin rubber contracted and drew away from the chest and allowed some leakage, and that had to be re-adjusted from time to time. Then the shield was developed to such an extent that we got a concave surface that held considerable paste and then it held very well.

"The next difficulty was the difficulty of the lymph in the chest. There is no question that the lymph is dissolved by Dakin's solution, but the question was whether simple drainage would break it up in time (of course, it would break it up to some extent in time). Simple drainage, it was found, was not sufficient to remove the lymph, except after a long period of time.

"As to the use of Dakin's solution there were some cases of serious reaction from irrigation of the chest at the time of operation. For a time it was the practice to drain out the pus and fill the chest cavity with Dakin's solution and wash it out pretty thoroughly. There were some serious reactions and it was found better to instill the chest cavity, as has been said tonight, with a moderate quantity of Dakin's solution until that portion of the chest had been walled off, and then it was found perfectly safe to irrigate to whatever extent was necessary.

"The other difficulty was in the use of some suction apparatus to obtain and maintain negative pressure and the ward carriage was devised with the suction apparatus and made down at the hospital by us. I got the different parts of it and Dr. Harlow assisted me and we fitted up that carriage and a Sorensen suction apparatus was used, wired, and attached to the upper shelf of the table." At this point in his remarks the doctor spoke of their use of a "stone plate that was wired, with a large plug that went into the wall, and that ran the sterilizer and suction apparatus," together with the "different other things that there were." He also said there was a "terminal there" that was used "for other purposes." Continuing along this line, the doctor said, "This suction apparatus was fairly powerful and unless the suction was carefully maintained and the guage watched very carefully, we found we were apt to suck so hard that we would get bleeding, and there were certain cases where it was easy to get serious bleeding. However, the hemorrhage did not amount to very much. The only thing we did was to let up on the pressure and so conduct it that we didn't get any serious reaction from the negative pressure.

"Those were the three difficulties with which we had to contend.

"We never had any serious difficulty from maintaining the suction in the large bottle which was placed on the carriage seen here in the pictures, and by using that we got good regulated pressure and a good vacuum which would be maintained for some time.

"Some cases did well. Some children cleared out in a reasonably short space of time. There is one case (a doctor's child) in which there has never been any recurrence or any trouble since.

"Our difficulty at first was with the lympth getting in the tubes and we sometimes had to change them.

"This, we found, was the only operation you could perform on a case where the other lung was seriously compromised, especially with pneumonia. If the empyema had so far compromised that lung that it was pretty nearly out of business, any attempt to fully anesthetize or subject the patient to the serious shock of a general anesthetic in such a condition as that would undoubtedly be fatal. You might get away with it once in a while, but not very often. In the older days we had cases where there was a perforation and where we had a pyopneumothorax and in which we had to operate without any anesthetic except local anesthesia, and we would go in and take out a piece of a rib. There would be some reaction, but we got away with it, but not in cases where the other lung was compromised.

"To sum up, there isn't any question that there are cases of chronic empyema where the cavity has been walled off that need a real rib resection, but until you determine that fact fully, it seems to me it has been pretty well established that the best method is to attack this condition through a closed method of relieving this collection of fluid in the chest, carried out with all the reservations which have been spoken of tonight. It is dangerous to irrigate the chest with Dakin's solution, except where it is fully walled off. It is safer to drain for a time and then instill Dakin's solution carefully to dissolve the particles, or masses, of lymph in there, and also for purposes of disinfection.

"I think along all those lines will be found the best method of treatment. Everything has some suggestion of value in it and it only requires good judgment on the part of the operator to conduct his work in such a way as to give the patient the best that he should have for the condition that he is to meet at the time he is to meet it.

DR. WALTER A. SHERWOOD:

"The work in empyema at the general hospitals was not nearly as great in volume as at the base hospitals. We did, however, have with us all the time a sufficient number of patients to keep a ward exclusively set aside for the care of empyema cases, and it may be of interest for me to read briefly a summary of the treatment given the cases at General Hospital No. 1, which is part of the report rendered by me to the Surgeon-General.

"'GENERAL CONSIDERATIONS GOVERNING THE TREATMENT OF EMPYEMA.

"'Acute cases—Immediate X-ray; aspiration at the point indicated by the plate as being most suitable; smear and culture of fluid aspirated.

"'OPERATION: Advisability determined by character of fluid withdrawn. In case fluid is clear, or only slightly turbid, a policy of intermittent aspiration is followed, being done sufficiently often to keep the pleural cavity free from fluid.

"'We find that this procedure is in itself sufficient in certain cases to effect a cure of the condition.

"'When, however, the fluid aspirated is turbid, thick and heavy, immediate operation is performed under local anesthesia, unless a pneumonia be present, when operation is delayed until the acute process has subsided. The point of election in uncomplicated cases usually is about the level of the eighth rib in the posterior axillary line.

"'A resection of the rib is always done, and immediately following the evacuation of the pus two large soft rubber tubes are placed in the cavity and fastened to the skin with a single silkworm gut suture.

"'POST-OPERATIVE TREATMENT: The two large tubes are left in place for 48 hours, when they are withdrawn and treatment by the Carrel-Dakin method instituted. Four No. 10 Carrel tubes, carrying fine silver wire stylets, to direct the position of the tubes when introduced, are carried in sufficiently far to reach the utmost limits of the empyema cavity.

"'Irrigation every 24 hours with 200 c. c. of Dakin's solution.

"'Instillation every 2 hours during the day and every 4 hours during the night with 50 c. c. of Dakin's. The amount used, however, is governed very largely by the size of the cavity.

"'Dressings are done daily, rubber gloves and instruments used, and vaseline compresses placed about the wound to protect the skin. The irrigating tubes are tested daily. The Dakin solution is supplied fresh from the laboratory each day. Bacterial smears are made regularly on those cases which promise favorable outcome for an operation for closure of the wound (which, by the way, we abandoned).

"'Especial attention is paid to the feeding of the patients. When convalescent, they receive at least 3,000 calories daily. Patients are weighed once a week. After the first week a spirometer or James bottle is used T. I. D. for 15 minutes.

"'X-ray plates are taken at regular intervals after operation for two purposes:

"'(1). To determine the rate of closure of the cavity.

"'(2). To determine the effectiveness irrigation and drainage—from the position of the Carrel tubes.

"'CHRONIC CASES: Whether following acute empyema or due to gunshot wounds with destruction of considerable amounts of bone, are treated as follows:

"'Operation is performed under general anesthesia, gas-oxygen, or ether, or a combination of the two. When possible, the outlines of the cavity are indicated on the X-ray plate by means of styletted rubber tubes, or the injection of a 25 per cent. solution of sodium bromide, or a combination of the two.

"'A free resection of the chest wall at the point indicated by the X-ray as being most suitable is done with two objects in view:

"'First. The establishment of free drainage and the removal of all necrosed bone or foreign bodies which may be present.

"'Second. To allow the expansion of the lung and the collapse of the chest wall upon it.'

"Now, let me briefly read you a summary of the treatment in 67 cases of empyema.

"'Number of cases,	67.
"'Mortality,	6.
"'Antecedent diseases—Simple pleurisy with effusion	1.
"'Tuberculosis,	2.
"'Influenza (without pneumonia,	8.
"'Pneumonia (all types, including influenza-pneumonia),	53.
"'Gunshot wounds,	6.
"'Number of rib resections,	72
(59 Cases—"That is, some of the cases had more than one operation.")	
''Number of thoracotomies,	9.
"'Mortality of each procedure:	
"'Following rib resection,	4.
"'Following thoracotomy,	2.
"'Drainage without suction,	67.
"'Drainage with suction	0.
"'Average time before closure,	112 days.
("'Average greatly increased by few cases with sinus which persisted for many months. Majority of cases healed in 5-8 weeks).	

"'Method of closure:

"'Secondary closure not practiced except in a few instances. In these cases the wound usually re-opened spontaneously or required subsequent operation because of secondary pockets, pleural shelves or necrotic rib. These phenomena were also noted in patients admitted from other hospitals in which secondary closure had been practiced or attempted. The method was, therefore, abandoned at this hospital as an unsurgical procedure, and wounds were allowed to heal in the usual manner with satisfaction and, in the main, good results.'

"Finally, the results in empyema patients:

"'For the most part, the cases of empyema operated on at General Hospital No. 1 by rib resection, adequate drainage and post-operative treatment by the Carrel-Dakin technic, made a good recovery, and a complete cure was effected.

"'The number of cases, however, in which the acute condition was superseded by chronic empyema with discharging sinus and the formation of a pocket or pleural shelf with partially collapsed lung was convincing evidence of the uncertainty and inadequacy of the treatment in a considerable proportion of the cases. In the majority of these chronic cases, however, forced feeding, fresh air, blow bottles, sustained breathing exercises over long periods of time were sufficient to effect a complete cure. In the most persistent cases with large cavities, greatly thickened pleura and collapsed lung extensive secondary rib resections with wide exposure, separation of adhesions and partial decortication, were practiced. In this class of patients it is difficult for us to draw final conclusions because of the transfer of these patients to other hospitals before treatment was complete.

"'It is noteworthy that during the epidemic of influenza of 1918, in which most of the cases of empyema were due to hemolytic streptococcus infections, not a single operative death was recorded. It is also believed that a mortality of 6 out of 67 cases compares favorably with the statistics of other military hospitals. All 6 deaths occurred in the first few months of the hospital's work before methods and organization had been standardized. We are convinced of the advisability of delaying operations until active pneumonia has subsided, relying in the meantime on intermittent aspiration for the relief of respiratory embarrassment.

"'The Carrel-Dakin treatment should not be continued after sterility is obtained. Necrotic ribs are frequently the cause of a persistent discharging sinus. Continuous suction apparatus and the trocar and cannula method of Phillips have not been used at this hospital.'"

The X-ray should be relied on as the most important diagnostic aid. Frequent puncture of the chest wall with a needle for the purpose of determining the presence of pus is a dangerous practice and should be discouraged.

Dr. Silas C. Blaisdell:

"I cannot let this go by without thanking Dr. Campbell for going back to the old treatment of empyema. I do not understand why anybody wants to resect a rib because you can make a stab wound and drain through that."

Dr. Frank E. Brown:

"The so-called Walter Reid technic was neither acceptable to the authorities of the Walter Reid Hospital nor the Surgeon-General's office.

"The cases that Mazingo had were all non-traumatic cases, of the acute and chronic types. The average duration of the stay in the hospital was 67 days at the time that I saw them, and they were all draining at that time. It seemed that his method might be applicable to cases of chronic empyema, but not to the multiple abscess type, and that the X-ray would be of value in determining whether a single or double abscess were present. The end-results were poor. It would appear that his paper was written early in the treatment of these patients without further testing out the value of the method; that the end-results were very unsatisfactory to the authorities, and they have practically abandoned that method."

Dr. J. Bion Bogart:

"After the close of the Spanish-American War Richard Harding Davis wrote a book on the subject, from which I might quote the first sentence, 'Even golf seems possible when Wigam plays its,' Wigam being the first American amateur champion. That remark, it seems to me, will apply to most, if not all, of these so-called newer methods of treating empyema. I might also quote from one of the reports of the Carnegie Foundation in regard to the standardization of medical schools. It began with the statement that there had been a 'healthy mortality' among the medical schools of the United States during the past year. That, I think, applies here, too.

"After a service of ten years in the children's ward in the early history of the Methodist-Episcopal Hospital I wrote a review of the empyemas that I had treated, which was published in the Annals of Surgery in 1899. Whenever I want to brush up on the treatment of empyema I read that article and I commend it to you gentlemen here tonight. If you will take the trouble to read it, I think you will appreciate that there has not been much of an advance made in the treatment of empyema since that time.

"However, there are some things that have been emphasized here tonight and that ought to continue to be emphasized. Almost any method will be more or less successful in the hands of the man who invented it because of the manner in which he applies it. Therefore, most of these methods have some virtue in the hands of their originators. For one thing, the originator gives it his own personal and very particular attention and that, in my judgment, is where we fail in the treatment of empyema in general hospitals.

"I think we must carry this discussion away from the Army hospitals. Those of us who are doing surgery in Brooklyn have other things to look after besides empyema. We must delegate a good many of these cases to others. There is where we fall down.

"One advance which has been made in this condition is the use of the X-ray in making the diagnosis. Instead of allowing an intern to introduce an aspirator to make a test, the X-ray will make the diagnosis, as has been said here tonight, and all of us of experience must know that the aspirator is not an instrument that is free from danger, especially in unskillfull hands. It is a serious thing in a sick child, or man for that matter, to puncture the lung, and it is done very frequently. Repeated introduction of the needle where pus is not found is a dangerous procedure. I might say that in many cases it is a desperately dangerous procedure. After the empyema has been located then we can accurately introduce the needle, because we know where the pus is, and we can make the aspiration.

"This matter of delaying operation, which has been emphasized here by, I think, nearly every speaker, is perhaps the most important thing that all these investigation brought out. You will find in my article of a good many years ago that it emphasized preliminary aspiration. I have developed that so that I continue to repeat it, and I must say that I think that many of the advantages that appear to accrue from these new methods are not superior to simple (repeated) aspiration in these cases.

"I have used formalin extensively following aspiration. I have never cured a case by the injection of formalin, and aside from not doing good, it has sometimes done harm, and although I feel very hesitant about criticising any method of the late Dr. Murphy, I must say that I never received any benefit from the injection of formalin following aspiration. That is a pretty strong statement.

"The most important thing about the treatment of empyema is the after-care of the patient. I have never yet, under the circumstances under which I did my work in hospitals, succeeded in impressing on the average intern the importance of the dressings in cases of empyema. They are neglected; they are allowed to remain on for 24 hours and sometimes longer than that; they are allowed to become displaced. The dressings are done in an unclean manner and it happens that there is at times an entire re-infection. I have seen more than one instance of what might be called an epidemic of infection of empyema cases that were doing perfectly well. I have seen as many as three deaths in a half-dozen cases in a single ward result after cases had been operated upon.

"Another thing I want to say is with respect to the question of mortality. If we proceed in a rational manner, we shall not have, except in very young children and individuals in very bad condition, a very high mortality in the treatment of empyema. We shall have a number of deaths in these very bad cases, but, as time goes on, I hope we shall learn how to save more of them. We shall have a number of these chronic cases to look after.

"The thing that interests me as much as anything is how to discover the differences, what it is that determines that this case proceeds in a perfectly normal manner from operation to recovery in a fairly short time and why the other case, treated in the same way, goes the other way—the patient does not do well, the patient dies; or, in that other case, the cavity does not close and we have to do a more extensive operation.

"I want to express my indebtedness to all the gentlemen who participated in the discussion. If they have done nothing else, they have made me feel more comfortable after the various methods have been tried. I remember seeing Dr. Durham and my brother wrestling with the Phillips apparatus. I didn't want to try it and I never did.

"I think we have made progress.

"If the lesson brought out tonight is taken to heart by all here, the results of the tratment of cases of empyema in Brooklyn in the next year will be better than they were in the last."

Dr. Charles H. Goodrich:

"During the past winter it was my privilege to spend five months in charge of the Empyema Ward at Camp Dix. During this period we treated 73 cases and there were 2 deaths. The first death was a case of shrapnel wound of the chest. He was profoundly septic when he came to us from overseas. He was re-operated and treated as were all the other cases. He developed miliary abscesses of the right kidney, became rapidly septic and died at the end of five days. The other case was a case of chronic empyema with came to us from another hospital and died as the result of a double influenza-pneumonia which developed five days after a secondary operation.

"In general, the character of the cases were those following so-called influenza-pneumonia, but of very varying bacteriology. Almost to a man these cases were extremely ill.

"The general plan of treatment that was adopted in all of the acute cases consisted of repeated aspirations until the other lung (the opposite lung) was entirely clear of inflammatory phenomena, then rib resection and following that, beginning on the day after operation, the application of carefully standardized Carrel-Dakin treatment, following exactly the technic outlined by Dr. Sherwood in the reading of his report. The aspirations accomplished a remarkably advanced recuperation before the operation of rib resection was done. We had, in short, a practically shockless operation and we had a very rapid resolution of the suppurative process in the pleural cavity.

"The weakness of the Carrel-Dakin treatment (and there have been many called to your attention, perhaps more than really exist) seemed to be the fact that the cases of bound down lung, contracted lung bound down by firm adhesions, were a little in excess of what we should have seen. We had 6 such cases among those treated by us.

"In the matter of the after-treatment we followed the regime outlined by Dr. Sherwood—an abundance of fresh air, keeping as many men as we had room for on the veranda day and night, and in their feeding we perhaps out did General Hospital No. 1 because we tried to average as near 4,000 calories a day as we possibly could. All this was started in a few days after operation.

"We had chronic cases, most of them from other hospitals. Why did did we have them? There were 6 cases, originally very septic, all of whom developed chronic empyema. I believe that insufficient resections of ribs are responsible for a certain number. In all of our own cases unquestionably the element of importance lay in the fact that the opening became too small to take care of the drainage before the cavity was reduced by expansion of the lung. I believe that wrongly located resections also may have something to do with these occurrences of chronic empyema, for in 10 cases in which secondary operation was done in 9 the original operation had been done anterior to the posterior axillary line—in some cases a little higher than most of us would choose. In each case I believe there was some reason for this procedure and in 2 cases that I remember very well the X-ray indicated the exudate at the position at the point attacked.

"I believe the prolongation of the aspiration treatment may be responsible the slightest distress or untoward symptom.

"I believe there is no question but what the low mortality of this series was very largely contributed to by the repeated aspirations until the other lung was clear (inflammatory evidences). At the same time I believe it is possible to carry the aspiration treatment too far.

"I believe delays in diagnosis may be responsible for a certain number of our chronic cases of empyema. It seems to me that one of the problems which we have to face and to think of more seriously is the question of diagnosis, delay being the cause of many of the cases of chronic empyema. These are the cases that demand the deforming operations.

"I am rather inclined to believe that in the class of infections with which we had to deal in this series there was considerable advantage and considerable assistance rendered by the careful and punctilious application of the Carrel-Dakin solution. There is no question but what there may be some element of risk in irrigating the pleural cavity unless everything is taken into consideration and every rule has been worked out very carefully and has been followed strictly.

"We saw one interesting instance of how increased pressure, in the case of an encapsulated empyema cavity near the apex of the left lung, can do a great deal of harm. This pressure was almost immediately transferred to the heart. In this case the cavity had contracted rapidly. Originally there were four tubes placed, but two tubes were removed. It was important to place the irrigation bottle at the proper height, within two feet of a level of the opening in the chest wall—a foot per tube. In this case the nurse put the bottle four feet above the patient, the same as in other cases using four tubes. Almost immediately after the irrigation was begun the patient showed signs of distress and heart collapse. The irrigation was stopped immediately, the patient given resuscitating measures and he recovered promptly. For ten or twelve days he was irrigated with the bottle at the proper level and had not the slightest distress or untoward symptom.

"I believe that we should not close these cases by suture. Experience on the part of many surgeons is that most of cases secondarily closed must be reopened.

"It seems to me that one of the advantages of the Carrel-Dakin treatment is that we have a method of finding out exactly the changes in the size and capacity of the cavity in the chest and so can measure the rapidity with which the lung expands.

"I believe also that long-continued treatment with the Carrel-Dakin solution does cause irritation, that it does cause a thickening of the visceral pleura, and that the binding down of the lung is contributed to by it.

"I made the observation in two prolonged cases where we stopped the Carrel-Dakin treatment simultaneously, except for the daily irrigation, and saw the typical purulent exudate reduced in 48 hours to one-quarter the amount that it had been previously when the regular instillations were given.

"I believe one point should be emphasized in the case of rib resection along with the proper location, and that is the size of the section taken out. This is a point which has been emphasized by those teaching at the Rockefeller Institute, namely, that from 3½ to 5 inches should be removed instead of the old idea of one inch or 1½ inches. The size of the resection is of considerable importance. In cases where the rib resection was done in this way we had sterile smears for three days three times in succession, every other day, in one instance on the ninth day, in one instance on the eleventh day and in one instance on the thirteenth day, showing how rapidly the spaces close up under the Carrel-Dakin treatment when the rib resection has been generously done."

DR. JOHN E. JENNINGS:

"I know you have had a great deal of discussion on this very interesting subject and I think you are probably pretty well saturated with the subject of empyema, so I will not attempt to discuss the paper which I regret very much not having heard, as I did not get here on time, and which I am quite sure I would have enjoyed as much as I have the discussion which has followed it.

"However, I would like to say a word or two of my own on this subject of empyema.

"The subject of empyema, it appears to me, may be discussed from the point of view of its recognition, a thing about which I think our experience of the last months has taught many of us a whole lot.

"I know and feel that the X-ray, the use of the radiograph, is perhaps the most important single method to be used in the recognition of empyema, in cases where one can get it.

"I feel also, more than I did three years ago, when I read a paper before this Society on the same subject, that the indiscriminate use of the aspirating needle by the medical man should be condemned. I am sure that a very large number of cases of empyema are not only attacked but implanted by the vigorous attempts of the medical man to make sure that there isn't any pus in the chest cavity. If one sticks a needle through a clean pleural cavity into an infected lung and leaves a trace of pus in its trail in the wounded pleura and repeats this performance for three, four or five days, before the third week has gone by one should have pus in the pleura. The only wonder is that with so much of this sort of thing going on there aren't more infected pleurae than there are. I think many of the medical men who worked with us were convinced we were right.

"Unfortunately, we cannot carry the X-ray with us in private practice, or even in hospital practice, with the lavish hand that we did in the Army. Nevertheless, it could be used a great deal more, and if it were used more I am sure that the recognition of empyema by means of the X-ray would be better understood than it is now.

"One other thing I would like to say is this: after having seen tried and after trying ourselves and after reading what other people have had to say about the new methods of dealing with empyema, I have come to the conclusion that one should discover empyema as early as possible and that we must make sure that the opposite lung is not affected before entering the diseased side; that one will open the empyema by removal of the proper rib in proper proportion and with as little use of Dakin's solution as is compatible with the viewpoint of the community in which one lives, and allow the case to drain itself while feeding it with a sufficient amount of food and giving it as nearly as possible a sufficient amount of pulmonary exercise and at the right time. If that is done, I maintain the patient will recover.

"We cannot discuss the Army with reference to civil practice. I do not believe that bears any relation to our future practice in Brooklyn. We had people in the Army die epidemically as children die in orphan asylums. So, let us forget it. We have to deal with civil practice among civilians. I hope we never find again such epidemics as we had to deal with. There are cases in which the empyema affects the whole pleural cavity early and the patient is profoundly septic. Those cases should not be drained immediately: they should not be drained too suddenly. They should not be drained in such a way as to give the patient mediastinal flutter and kill him. We should approach our cases carefully.

"It is best not only to not drain these chests too high, but also to not drain them too low, and one of the medical heresies, with which the woods are full, has come out of Philadelphia where Thomas is removing the tenth rib and, therefore, I regret to state, portions of the diaphragm. I request that that be not done. The tenth rib is too low down in the average chest for safety's sake. The eighth rib is low enough.

"I think that those are the important points that I would like to bring out.

"I think empyema is a disease which it is comparatively easy to standardize in diagnosis and in therapy. I think if one can establish in hospital service, as much as possible, a set method and stick rigidly to it, it will pay him better in empyema than it will in many other conditions.

"So far as our lack of success is concerned, I think it is due to the temptation and the tendency to introduce new methods and modify beyond good reason."

DR. JOHN A. LEE:

"May I emphasize the remarks of Dr. Jennings?

"During the period of the war we were dealing with a terrible epidemic. What was the cause of the renaissance of this empyema problem. The cause was this terrible plague that we had in the winter of 1917-1918 that affected the soldiers and also the sailors.

"I happened to have an opportunity of seeing a great many of these cases in the winter of 1917-18 in the Naval Hospital.

"What was the reason why some milder form of treatment was adopted? In the first group of those empyemas they were all resected and the mortality rate was appalling. So large proportion of them died, that when the epidemic subsided the Surgeon-General's office was thoroughly disturbed.

"In the fall of 1918 we came across a problem which was somewhat different. We had another plague, this terrible epidemic, but at that time we were able to obtain some knowledge from what had happened in the past and less violent methods of treatment were developed. That was the only thing that could be done.

"These patients were extremely sick. Some of them so sick that if you attempted anything radical it would kill them. If you moved them out of bed you would kill them.

"In some of those cases aspiration did help, even if it did not cure them. It tided them over until they could be operated on. In one or two instances I think aspiration did effect a cure. Simple drainage would sometimes cure those cases, but the objection to aspiration simple drainage is the fact that aspiration with simple drainage is usually in the hands of the medical man unless the medical man is pushed pretty hard by the surgeon he will keep on aspirating a case until it develops this condition in the chest, lung high up, and bound down by adhesions. When you reach that stage there isn't anything to do but do a radical operation. That is the only thing that will cure them, and frequently it will not cure them as the condition frequently develops into chronic empyema. I have seen cases of broncho-pleural fistula. After coming back from France I operated some at the Kingston Ave. Hospital. One case that had a broncho-pleural fistula died three days after operation from a plumonary hemorrhage. It was an excessive pulmonary hemorrhage. He died in no time. So the point is you must not attempt (and I think the point should be emphasized as the result of this discussion) to do a radical operation on a very sick man because if you do, he is going to die. If you have to do something you can do an aspiration or simple puncture and drainage, and if the case goes on to final rib resection, his life is at least saved. It won't be if you do a radical operation in the beginning. On the type of case we saw in the service."

DR. JOSEPH P. MURPHY:

"I would like to ask Dr. Campbell how many cases he treated at The Long Island College Hospital and also his mortality.

"I had the pleasure of going down to the hospital and visited many of those cases with Dr. Wight and I was enthused by his enthusiasm in the care and treatment of those cases.

"Can you answer that question, Dr. Campbell?"

DR. WILLIAM CAMPBELL:

"Dr. Harloe has the statistics and can inform you on that point, doctor."

DR. RALPH F. HARLOE:

"Nineteen cases were treated by this method with one death. That was due to a complicating pneumonia on the opposite side. That is the only case we lost."

DR. J. SHERMAN WIGHT:

"I think that case came in the hospital after somebody outside had done a rib resection on both sides."

DR. RALPH F. HARLOE:

"That was not the case."

DR. J. SHERMAN WIGHT:

"That was another case that died. We sealed both holes. That man was kept alive for two weeks, and he insisted on pulling the tubes out and collapsed his lungs and died.

"That was a case in which no open operation should have been done."

At the conclusion of these remarks by Dr. Wight it was pointed out that they indicated a mortality of two cases instead of a mortality of one case, in this series, whereupon the doctor said one of the cases was not counted as the operation that was done was done to save life after double rib resection.

DR. JOSEPH P. MURPHY:

Several years ago we had the pleasure of hearing a paper read by Dr. John Jennings, in this Society, on Empyema; and if I remember correctly, he quoted some statistics from Mt. Sinai Hospital.

In the April "Surgery, Gynaecology and Obstetrics," there was a symposium on Empyema. The first was the surgical treatment of Empyema by Dr. Moskowitz, who stated, that in tabulating statistics, the results in 299 consecutive cases observed in the Mt. Sinai Hospital, New York, during the preceding ten years, discovered that the mortality reached the formidable figures of 28 per cent.

Unfortunately, many of us do not keep good statistics. We remember the cases that get well, and are prone to forget those that die.

We must bear in mind that the pleura, histologically, is a connective tissue membrane, composed of fibrilated connective tissues, with basement substance and cells, and covered over its free surface by a layer of endothelial cells.

Inflammation follows two different forms.

In children, the pleura is coated with a fibrin and pus; and its cavity contains purulent serum; the pleura itself, is little changed. Hence, simple aspiration or simple drainage, often cures these conditions.

I have seen this demonstrated on numerous occasions by Dr. John D. Sullivan, at St. Johns Orphan Asylum.

In many of these cases an intercostal drainage tube was inserted, and the children made an uneventful recovery.

In the adult, the pathology is quite different: beside the wall coated with fibrin pus, there is an interstitial inflammation, extensive in character, so that the Pleura resembles granulation tissue; consequently, resolution is slow in these cases, and they cannot be cured by simple aspiration.

In reference to the etiological factors of Empyema, Moskowitz in his paper, stated that it was more than probable that in many cases Empyema was secondary to a sub-pleural pulmonary abscess, and that he was able to confirm this several times at autopsy.

And furthermore, that such pulmonary abscesses were the disposing factors in many cases of Pyopneumothorax.

As regards the question on intrathoracic pressure, I believe it is more or less of a bugaboo. In the presence of Empyema, there is always enough plastic exudate to prevent the complete prolapsus of the lungs, and there are comparatively rare fatalities attended with the operation of Thoracotomy.

It is well to bear in mind in the treatment of these cases, that the best results are obtained when operative interference is not undertaken too soon, and that the treatment of each case of Empyema is a law unto itself; and that the post-operative care is of tantamount importance.

My experience with the Phillips Apparatus has been disappointing.

My best results in children, in these cases that came to the Coney Island Hospital, were obtained by an intercostal drain, and after a week or ten days, the use of a two percent Formalin and Glycerine. It seemed to me that these cases inevitably got well. In all the Chronic cases, good results were obtained by the use of a two percent Formalin and Glycrine Solution, injecting about one and a half to two ounces into the pleural cavity, and inserting a small glass drainage tube. Such a tube is easily re-inserted and easily cleaned.

The reader of the paper, Dr. Campbell, is to be congratulated upon his end results; the mortality being particularly low; and the splendid exposition of his method of treating these cases in the hospital.

THE ASSOCIATED PHYSICIANS OF LONG ISLAND

ANNUAL MEETING

The Annual Meeting of the Society will be held on Saturday, January 31, at the Methodist Episcopal Hospital, Sixth Street and Seventh Avenue, Brooklyn, where a clinical program will be provided. It is hoped that arrangements can be made whereby lunch may be served at the Hospital.

The Annual Dinner will be held at the Montauk Club in the evening, at which an attractive list of speakers is promised. Full details will be furnished in the Secretary's formal announcement.

Reserve the date—January 31st, 1920.

Medical Book News

BOOK REVIEW SUPPLEMENT TO THE *LONG ISLAND MEDICAL JOURNAL*

Edited by JAMES M. WINFIELD, M.D.

All communications, books for review, etc., should be addressed to the Editor of this Department, 1313 Bedford Ave., Brooklyn, New York

1920, No. 1 JANUARY, 1920 3 PAGES

INDUSTRIAL MEDICINE AND SURGERY.

INDUSTRIAL MEDICINE AND SURGERY. By Harry E. Mock, B. S., M. D., F. A. C. S. Phila. & London, W. B. Saunders Company, 1919. 846 pages. 210 illustrations. 8vo. Cloth, $10.00.

This book which has been awaited for a long time by those physicians interested in industrial health work, is a very complete and detailed discourse on this subject. With very little written on this comparatively new field of preventive medicine up to the present time, it is fortunate to have one of Dr. Mock's experience take up the subject in so complete a manner.

As a matter of fact, industrial health comprises both preventive and curative medicine, and the book is arranged accordingly. Part 1 comprising the first 13 chapters is devoted to the general discussion of industrial health service, outlining the type of hospital or clinic room, the medical and nursing staffs, costs, supervision, and similar matters. Part 2 with 10 chapters, considers the preventive side of medicine and surgery together with industrial hygiene and its relation to all phases of industry. Part 3 devotes 7 chapters to the medical aspects of the subject, in which are described medical examination of employees, and the treatment of medical conditions. Industrial surgery is considered in 10 chapters as Part 4, and discusses this field in a very complete and able manner. A description of the necessary equipment is followed by matters such as first aid, emergency work, subsequent treatments, and special chapters on infections, fractures, and amputations. Part 5 is given over to the consideration of compensation, insurance, and mediocolegal points. Dr. Mock's experience in the Surgeon General's Office in charge of the rehabilitation work incidental to the war, is applied to the industrial field of peace times in the last two chapters of the book under Part 6, in which consideration is given to human conservation and reclamation of the disabled. A valuable Bibliography completes the volume, and should be used by industrial health men, and all those entering the field who may desire complete information on this subject.

No special phase has been selected for a detailed review because the whole subject is so well treated in this volume, that it would be an injustice to the parts not discussed so fully.

A. E. Shipley.

DISEASES OF INFANTS AND CHILDREN.

THE DISEASES OF INFANTS AND CHILDREN. By J. P. Crozer Griffith, M. D., Ph. D. Phila & London, W. B. Saunders Company, 1919 .2 volumes. 1542 pages. Illustrated. Plates. 8vo. Cloth, $16.00.

The comparative paucity of good text books on pediatric subjects in the English language especially, may be partially explained by the fact that pediatrics, as a separate subject or specialty, is of quite recent development.

Up to a comparatively short time ago, the diseases of children were discussed in the text books on general medicine, and in the curriculum of the medical schools scant attention was given to this supposedly secondary subject.

The situation has changed, however, and with such a startling and progressive rapidity that it is almost unbelievable to a graduate of even a few years ago.

Of the books on children's diseases which have appeared in the past few years few have created a more favorable impression than the one here considered.

The work is in two volumes of which the first is devoted in part to general subjects with sections on Hygiene, Feeding and Diet, Diseases, of the New Born, Infectious Diseases, General and Nutritional Diseases, and Diseases of the Digestive System.

The second volume is somewhat smaller than the first and has chapters on Diseases of the Respiratory, Circulatory, Genito-Urinary and Nervous Systems; Diseases of Muscles, Bones, Joints, Blood, Spleen, Lymph and Ductless Glands; Diseases of the Skin, Eye and Ear.

Perhaps the outstanding feature of the treatise, and the one which immediately attracts the attention of the reader, is the plentiful supply of references to the literature, with a citation of the exact place of publication so that the originals may readily be consulted.

These bibliographical references are presented in foot-note form so as not to complicate the text or burden the casual reader who may not be interested in them.

The metric and English systems of measurement are always given together, in each case a given author's statistics being set forth in the system employed by him, and the corresponding figures in the other system placed in parenthesis.

Dr. Griffith is to be congratulated on the production of a work which cannot fail to be of incalculable service and value to any one interested in the study of either the sick or the healthy child.

W. H. Donnelly.

THOUGHTS OF A PSYCHIATRIST ON THE WAR AND AFTER

THOUGHTS OF A PSYCHIATRIST ON THE WAR AND AFTER. By William A. White, M. D. New York, Paul B. Hoeber, 1919. 137 pages. 12mo. $1.75.

This little book makes a delightful hour's reading. The author in his usual clear thinking way begins by seeking the laws and principles that determine the conduct of man. He evinces his belief in natural law and passes on to emphasize that it is the struggle within which is of supreme significance—the inward struggle of the religious man or of the idealist. At this point, in a footnote, he correctly informs the reader that all of the old metaphysical psychology has been scrapped and that psychology is now a science concerned with objective and experimental evidence—in other words, that psychology is nothing more than physiology. This makes the reader hopeful that something good is forthcoming in the later pages; but quite suddenly the reader's hopefulness is brought to an end by the author's introduction of psycho-analysis, the Freudian wish, and motives, as an explanation of man's conduct. Here the author leaves the methods of science. He omits consideration of that knowledge of the development and training of the mind (I prefer to say individual inasmuch as we do not think of the mind as an entity) and all that it means in determining conduct including wishes and motives, which is known to the educator and is based on facts and experimental evidence. The author is also disappointing as a scientific thinker because of his assumptions in his closing thoughts—he assumes that it is best for us not to hate our defeated foe and that it is best to have the League of Nations. He doesn't show capacity for thinking through a problem or all around a question as, for instance, Metchnikoff did in his work on "The Nature of Man." Of course Doctor White has not attempted anything so pretentious but even in a little work he could have set down the facts which justify his conclusions about psycho-analysis and the conflict of wishes. Animal behaviour is determined in a natural way by a cause. When the endocrine or the external environment that would give rise to an instinctive reaction do not succeed in doing so it is because experience, that is training, has substituted an inhibitive reaction. It would be interesting to see how Doctor White would handle the subject of education in relation to the possible development of psychosis. A man who has trained himself to be unselfish an altruistic cannot easily take on a selfish grandiose attitude. The training for the conflict of wishes in a normal man belongs to the educator not to the psychiatrist. It is only when the normal workings of some of the nerve cells are impaired that we get conduct that needs a "psychiatrist" (really a neurologist). The impairment of the neurons may be due to toxins, endocrine, or other, to extraneous poisons or organic changes. It is for the neurologist to seek the cause of mental derangement and not to be satisfied with the mere recognition of the basic instincts which come to the fore as soon as the higher centers are impaired. If the psychiatrist wishes to take on the work of educating persons who were never properly educated, that is, those who are not suffering from any form of intoxication or detruction of neurons, but who lack ideals and self-control, let him do so in a true light and more forward from this metaphysical consideration of suppressed wishes and sublimated ideas. If Doctor White, in his thoughts, had given consideration to the possible role of chemistry in solving the etiology of some of the psychoneuroses we might have reviewed his little book with more enthusiasm.

O. V. H.

COLLOID CHEMISTRY.

COLLOID CHEMISTRY, an Introduction, with some Practical Applications. By Jerome Alexander, M. Sc. New York, D. Van Nostrand Company, 1919. 90 pages. Illustrated. 12mo. Cloth, $1.00.

Although Graham, as early as 1861, described in the "Proceedings of the Royal Society," London, the chief properties of colloids, little was added to our knowledge of this class of substances until about the beginning of the present century. Since then an extensive literature has accumulated on the subject, and the applications of the general properties of celloids to the arts and sciences have been numerous and varied.

This little book is designed to present briefly and in simple language the general properties of colloids, and to indicate some of the practical applications of these properties to the various branches of science and technology. The author mentions some of the applications in explanation of some of the facts of astronomy, meteorology, geology, agriculture, biology, metallurgy, dyeing, human physiology, foods, etc. The references to these applications are necessarily very brief and merely suggestive, but are enough to give the reader some idea of the importance of the application of these principals in natural phenomena.

This book of ninety pages is well worth reading as an introduction to the subject of colloidal chemistry.

E. H. B.

AMERICAN ILLUSTRATED MEDICAL DICTIONARY.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY. By W. A. Newman Dorland, A. M., M. D., F. A. C. S. Tenth Edition, revised and enlarged. Phila. & London, W. B. Saunders Company, 1919. 1201 pages. 331 Illustrations. 8vo. Flexible leather, $5.50; Thumb Index, $6.00.

No work on medicine is more vitally important to the average physician than a reliable dictionary, and such a book is indispensable to a large percentage of the profession to whom spelling, especially of medical terms, is a bugbear.

The wide popularity of Dorland's dictionary is evidenced by the fact that since its appearance in 1900, it has reached its tenth edition with numerous reprintings of the former editions.

It fulfils all the requirements of the ideal medical dictionary in the wide field of material covered, the clear and attractive set-up, convenient size, and flexible leather binding.

Not only are the words and terms spelled, pronounced, and defined but important discoveries have the name of the discoverer and date of discovery stated.

Under "*tests*" all the important diagnostic methods are tersely explained, and the text is plentifully supplied with illustrations, most of which are of the nature of colored plates.

To sum up, it may only be said that this is an up to date revision of what is already a standard medical publication.

W. H. Donnelly.

BOOKS RECEIVED

Books received for review are acknowledged promptly in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases review notices will be promptly published shortly after acknowledgment of receipt has been made in this column.

THE DISEASES OF INFANTS AND CHILDREN. By J. P. Crozer Griffith, M. D., Ph. D. Phila. & London, W. B. Saunders Company, 1919. Two volumes. 1542 pages. Illustrated. Plates. 8vo. Cloth, $16.00.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY. By W. A. Newman Doland, A. M., M. D., F. A. C. S. Tenth Edition, revised and enlarged. Phila. & London, W. B. Saunders Company, 1919. 1201 pages. 331 illustrations. 8vo. Flexible Leather, $5.50; Thumb Index, $6.00.

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LONG ISLAND MEDICAL JOURNAL

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THE CORRECT TECHNIQUE OF GASTRO-ENTEROSTOMY *

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GASTRO-ENTEROSTOMY is the operation most frequently performed on the gastro-intestinal tract, except appendectomy, and it might therefore seem to be at least useless and pretentious to write a paper on its technique; however, from an extensive study of the literature, from having witnessed the operation performed by numerous surgeons in many countries, from the experience gained in teaching for several years surgical technique in post-graduate classes and from discussion of the subject with several surgeons, we feel convinced that there is still room for improvements in the technique of gastro-enterostomy, so as to render its performance so technically perfect, that all complications due to the operation itself are prevented.

We all know that gastro-enterostomy must provide a new passageway between the stomach and the intestine. This passageway must be made in the correct position, be of suitable size, and remain so during the patient's life, it must be safe immediately after it is made and afterward. The chief dangers of gastro-enterostomy are immediate and remote; immediate are: leakage, vicious circle, persistent vomiting, internal hernia, hemorrhage and occlusion of the intestine; remote, stenosis or occlusion of the new stoma, adhesions; secondary peptic ulcers; failure of emptying or too rapid emptying of the stomach, pain in colon. The technique of the operation must therefore be such that these dangers or complications are as completely prevented, as our present knowledge can do, and we must insist on the importance of preventing post-operative adhesions which seem to us to be the main cause of unpleasant complications. After having described the technique that we advise and which we taught for several years before the war, we shall see on the basis of clinical experience and carefully controlled experiments on animals, why each step of the technique to be described is rational and why some of the methods now used and some of the suggestions made by different authors do not meet the requirements of what should be considered an absolutely technically perfect gastro-enterostomy.

The aims of our technique are: extreme gentleness in handling the peritioneal organs and so preventing post-operative vomiting, shock,

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* Read before the Brooklyn Surgical Society, Nov. 6, 1919.

and later formation of adhesions; each step of the operation is so arranged that each step is a rational preparation for the next, and each step is completed before the next is started. Nothing is left to chance, each possible complication is foreseen and prevented, as far as human intelligence and actual knowledge can prevent it.

In the preparation of the patient, we think it most essential to get him accustomed to the use of the stomach tube, although continuous and distressing vomiting, stomach dilatation, or any very uncomfortable feelings occur more seldom now, than in previous years. Surgeons accustomed to operate in a great number of cases know that the stomach tube could be used with great advantage to relieve the painful and probably dangerous symptoms mentioned above. It is at times very distressing to use the stomach tube on a patient who is not well accustomed to its use, after the patient has undergone a surgical operation on the stomach; actual pain and fear that the operation might not have been successful and the lack of habit in swallowing the stomach tube render such a simple procedure as the washing of the stomach a very complicated, difficult and at times even dangerous one, especially when made by a young intern or a nurse not accustomed to its performance. We believe, therefore, that in order to prevent any trouble, it is wise to train the prospective patient, who has to have a gastro-enterostomy performed, in the use of the stomach tube. We think also that a stomach lavage immediately before and after the operation is very advantageous.

We deprecate the use of purgatives of any kind immediately before the operation or even two or three days before. It seems to us that if a physic is given, it disturbs and weakens uselessly the patient. We say uselessly, because if the purge is given with the intention of emptying the stomach and the bowels, the stomach when markedly ptotic will not be emptied by any purging, but will be well washed out, cleaned and emptied by a stomach lavage, while the bowels that need emptying, that is the colon, can be cleaned and emptied better by an enema than by any purge. We recommend strongly the emptying of the colon, because it does not distress the patient and has the great advantage of preventing some post-operative troubles. In fact the bowels become more or less paretic when handled during a surgical operation and as the raising of the colon is an indispensable step in the performance of gastro-enterostomy, and the raising of the colon means more or less manipulation of the same, it seems logical that it is better to manipulate an empty viscus than to manipulate one full of feces, which can generate a great amount of gas, which will gravitate on the stomach just operated upon and cause annoying symptoms.

The usual careful immediate preparation of the patient is followed previous to the operation. In greatly debilitated patients we resort to local anesthesia, in others, ether anesthesia is preferred; in very nervous patients we have the anesthetist meet the patient the day before the operation, so as to get the anesthetist familiarized with him and win his confidence; this helps a great number of debilitated and nervous patients in withstanding better the anesthesia and the operation.

We use a solution of rubber and ether in order to prepare the skin, instead of iodine (this technique is described in another paper).*

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* Annals of Surgery, January 1920, page 109. A. L. Soresi. The preparation of the skin for operation with solution of rubber and ether instead of tincture of iodine.

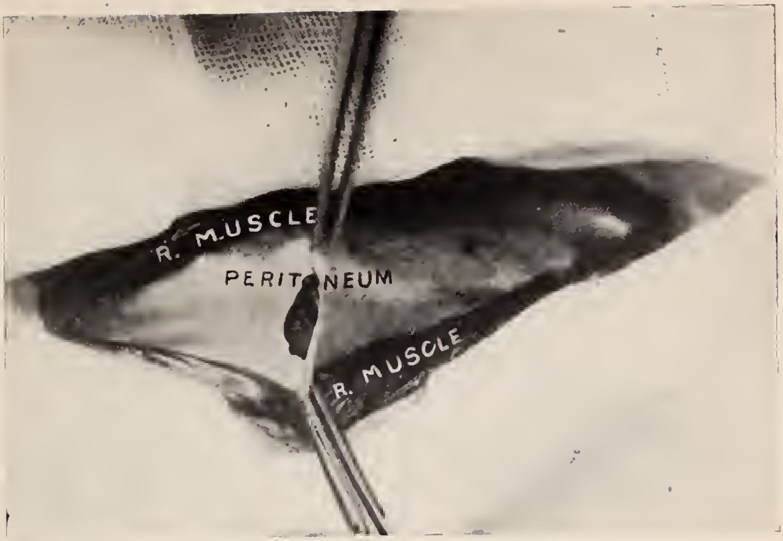


Fig. 1. Thumb forceps raising peritoneum while small incision is made into it.

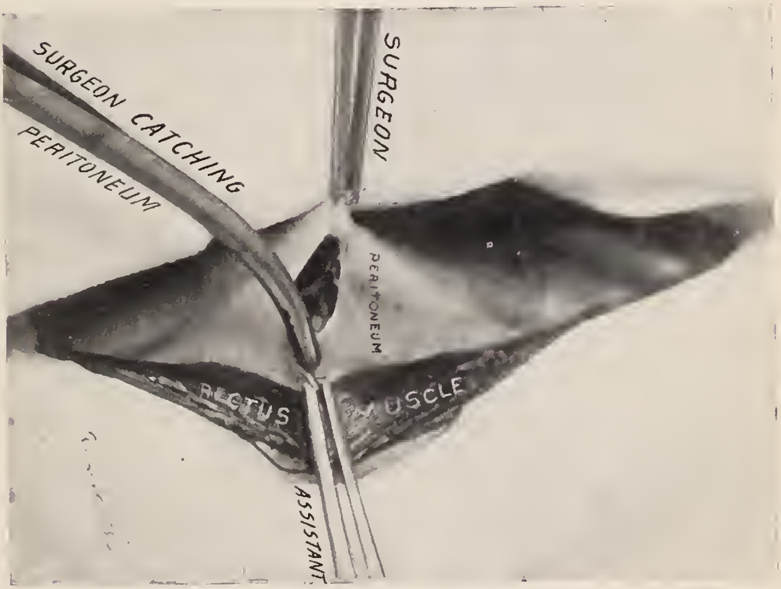


Fig. 2. While thumb forceps A held by surgeon, and B held by assistant raise up peritoneum, forceps C held by surgeon catches cut edge of peritoneum held by assistant.

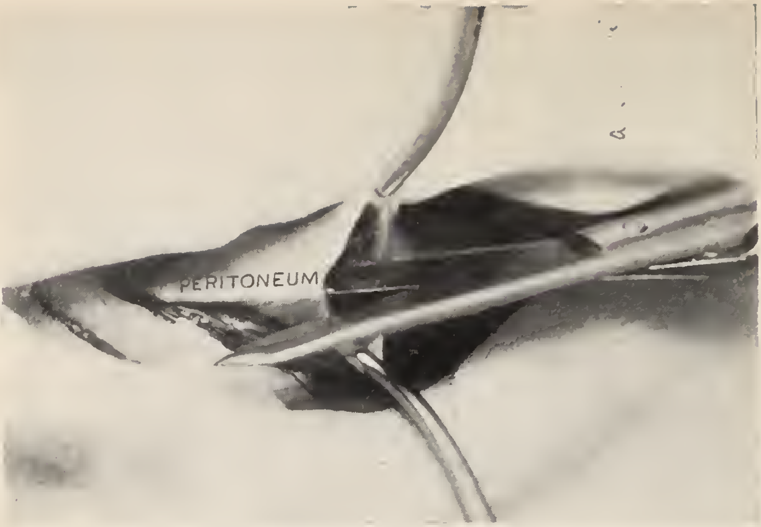


Fig. 3. While forceps raise up peritoneum, scissors are introduced close to the peritoneum; the peritoneum is lifted up on the edge of the scissors and cut; same maneuver is repeated below.

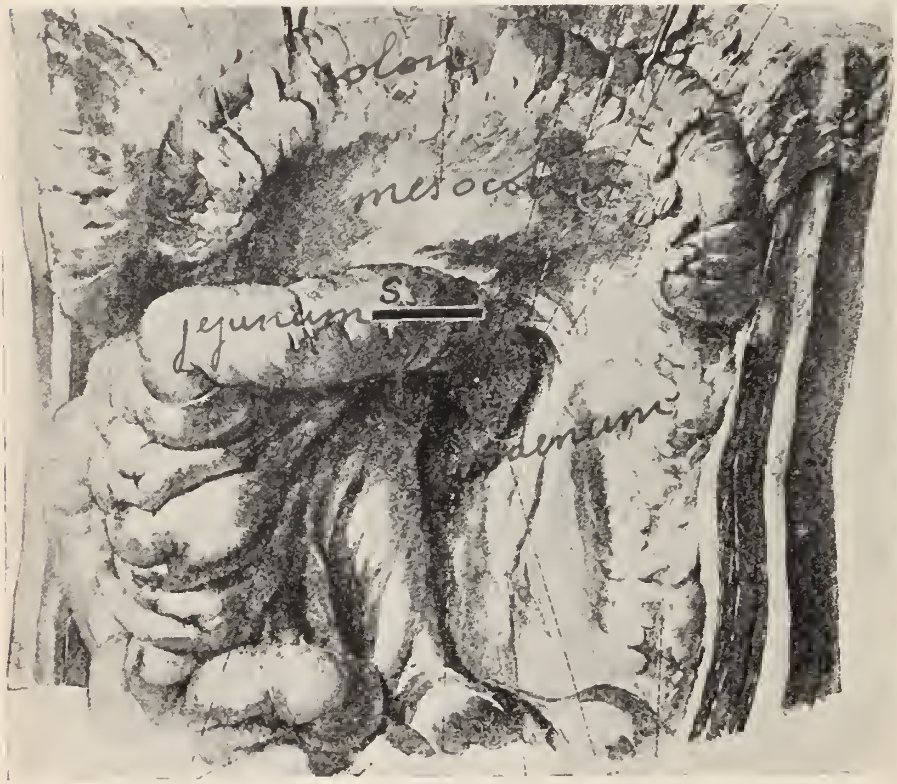


Fig. 4. Normal position of jejunum; line "S" shows where new stoma should be made.

The abdominal incision which should be rather long, is either the pararectal or the median one, according to the possibilities of finding some other lesion on the organs of the right side, in which cases the pararectal is obviously more indicated. We prefer to make a good hemostasis before opening the peritoneum, because at times a persistent bleeding of some of the vessels of the abdominal wall might lead the surgeon to think that some intra-abdominal vessels have been bleeding instead, and therefore cause loss of time and useless trauma in looking for the bleeder. We also recommend the following technique in the incision and securing of the peritoneum (Figs. 1-2-3).

The peritoneum is raised between two thumb forceps which are held each one by the surgeon and the assistant, who drop and catch it alternately, so as to be sure that only the peritoneum is caught between them. While the thumb forceps raise the peritoneum, a small incision is made into it (Fig. 1), and the cut edges are secured easily in the following manner without fear of including any other structure; the assistant catches the cut edge held by the surgeon and the surgeon catches the cut edge held by the assistant, so that each catches the peritoneum of the side opposite to him, because in this manner he can see perfectly well the cut edges and can easily avoid catching anything that could be near or adherent to it (Fig. 2). The peritoneum is kept raised up and the surgeon introduces the round blade of the scissors, keeping it in close contact with the peritoneum, so as to remove any organs that could be in contact with it, and raising the peritoneum with the blade (Fig. 3) cuts it. The peritoneum is properly secured. The abdominal cavity is examined not by introducing the hand, but by raising the abdominal wall with a retractor and so looking directly on the abdominal organs *in situ* with the help of a frontal lamp; *only occasionally, when necessary, can then one or two fingers or the hand be introduced, but always after having examined the organs by sight in situ.*

The colon and omentum are lifted up so that the beginning of the jejunum at the jejuno-duodenal angle *is seen plainly* (Fig. 4). The jejunum is caught with a sponge holder protected with rubber (Fig. 5) and held to be used later. If the jejunum should be held in any abnormal position by bands or adhesions, they are cut between ligatures in order to rectify the position of the jejunum. The mesocolon is then pierced at the point opposite the line where the surgeon intends to make the new stoma in the stomach (Fig. 6). Obviously care must be taken not to tear any blood vessel. The posterior surface of the stomach is plainly seen (Fig. 6), and is caught through the hole made in the mesocolon and pulled through it by means of a sponge holder covered with rubber (Fig. 7). The stomach is caught temporarily with two very soft clamps or better with two sponge holders covered with rubber. Each clamp or sponge holder should catch the stomach at a point corresponding to the extreme limits of the intended line of incision, but at least about two centimeters further from them (Fig. 8). The stomach and jejunum are sutured together, starting on the stomach and intersecting the jejunum at about half a centimeter from the attachment of the mesentery. This suture is made using two needles (the shape of the needle is to be left to the individual preference of each surgeon, generally we prefer to use long straight, rather large round seamstress needles). The thread should be about 50 cm. long, of strong black material,—catgut No. 1, lightly chromicized, is the most satisfactory material. The suture should enter as deeply as the submucosa, and follow the schematic outline found on Fig. 8, that is, take a bit of about three m. m. on one viscus and then enter the other viscus not exactly on a point opposite the point where the needle emerged, but somewhat more towards the point where the last stitch was put on the viscus through which the needle is going to be inserted (schematic view of how to apply correctly this suture and other view showing how it is incorrectly made (Fig. 9 A and B) show better than any words how to apply correctly the suture). About one-third of the strand of thread used for this suture should be left on the side where there is the needle that is not actually used to do this suture (Fig. 9 A). This suture must be about one centimeter longer than the incision which the surgeon is going to make on the stomach and on the jejunum (Fig. 10) and its direction must follow the direction of the intended line of incision and be about 6 m.m. from the same. The suture is pulled taut every two or three stitches, so that when it is finished the appearance of the stomach and the jejunum should be as represented in Fig. 10, that is, close to each other, without any ruffling or any pocketing and *no thread has to be seen.* The stomach and the jejunum must appear more as they would, if they had been glued than sewn together. The surgeon pulls gently but firmly the two ends of the thread, so as to be sure to have obtained a close approximation of the serous surfaces, passes the two threads to the assistant, who has to keep them well taut and out of the abdomen, and removes the two clamps or sponge holders that had been previously applied to the stomach. Up to this moment no packing has been used. (The illustrations show gauze around the stomach and the jejunum, but in actual work no gauze is used. Gauze was put around the stomach and the jejunum only with the intention of isolating them from the surrounding structures in order to illustrate more clearly each step of the operation). The stomach and the jejunum are at this moment isolated in the following manner: large gauze pads made of two or three layers are cut as shown in Fig. 11A, (dipped in melted paraffin, or sheet rubber is cut in the same manner; then one pad of paraffinated gauze or sheet rubber is passed under the stomach and the jejunum, as shown in Fig. 11 B so that the end of the cut comes in close contact with the stomach and the jejunum at the point of emergence of the sero-serous suture; the tails of the pad or sheet rubber are overlapped close to the other point of emergence of the suture. Several layers of gauze cut in the same manner and moistened with saline solution are put over the paraffinated gauze or the rubber, close to the stomach and jejunum; it is advisable to put some layers of gauze with the tails on the side of thread A, so that the thickness of the tails is better distributed on both sides of the operative field. The layer of moist gauze is covered with another thin pad of paraffinated gauze or with rubber. This arrangement provides a perfect isolation of the operative field and prevents any irritation of the serosas of the stomach and of the jejunum; paraffinated gauze is preferred to rubber sheets, especially for the upper layer, because it allows absorption through the moist gauze of any liquid that might come from the stomach or the jejunum. All this packing is done while the assistant holds the stomach and the jejunum out of the abdomen by pulling the two ends A and B of the sero-serous suture. The assistant holds threads A and B until the through-and-through suture is finished: if the packing is carefully done, and the assistant holds well the two ends of the thread, the other steps of the operation can be performed very rapidly and with technical perfection. The serosa

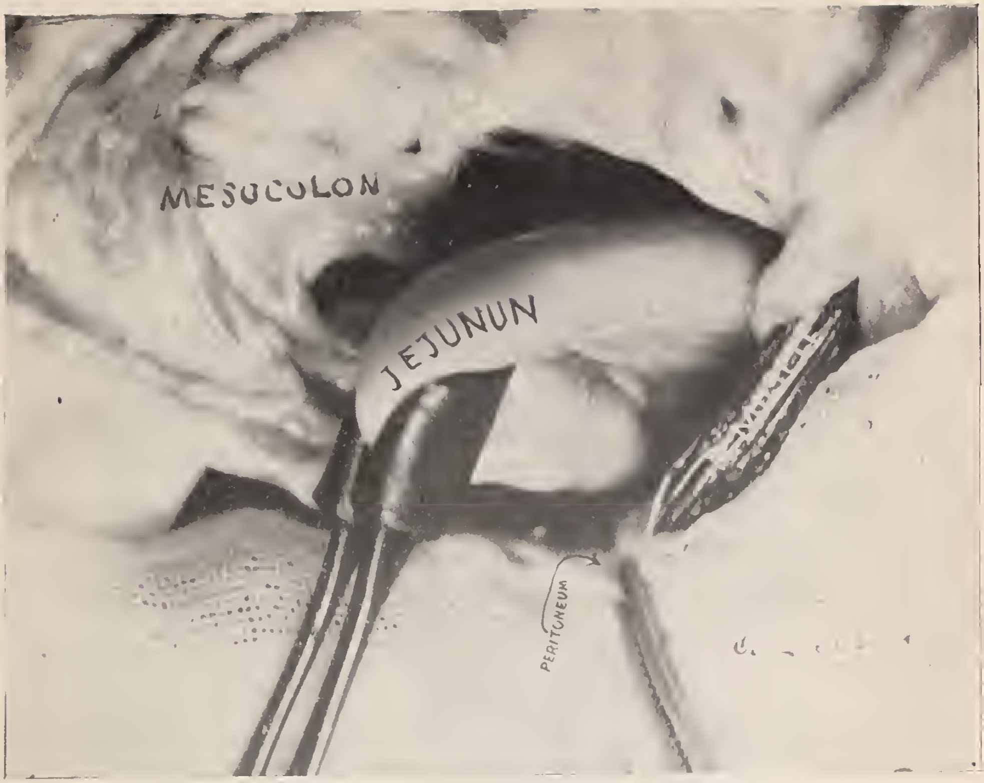


Fig. 5. Jejunum is caught with a sponge holder and pulled out in the abdominal wound.

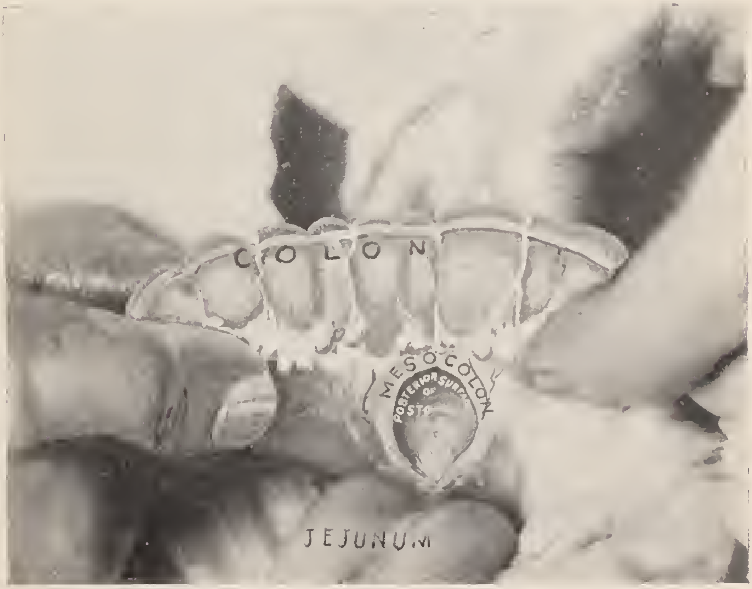


Fig. 6. Mesocolon has been pierced in correspondence to the point where new stoma is going to be formed; posterior surface of stomach is plainly seen through hole made in the mesocolon.

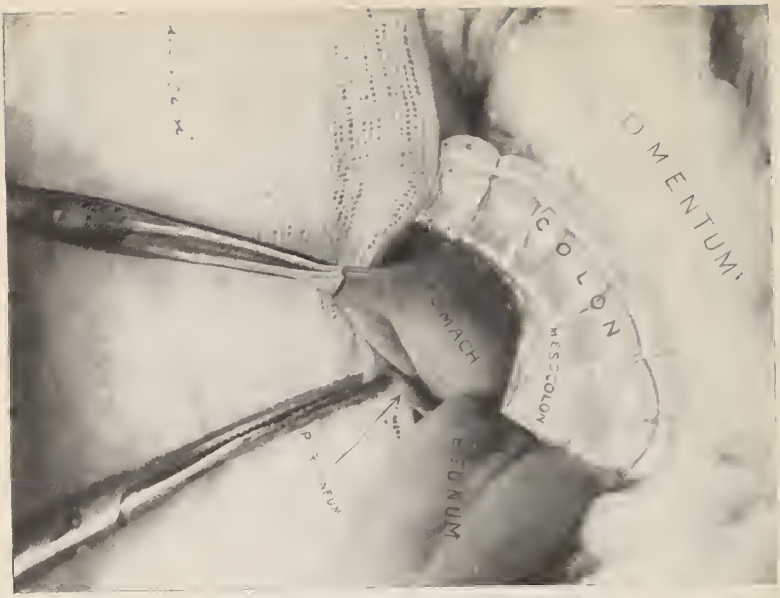


Fig. 7. Stomach is caught with a sponge holder covered with rubber and pulled through hole pierced in the mesocolon.

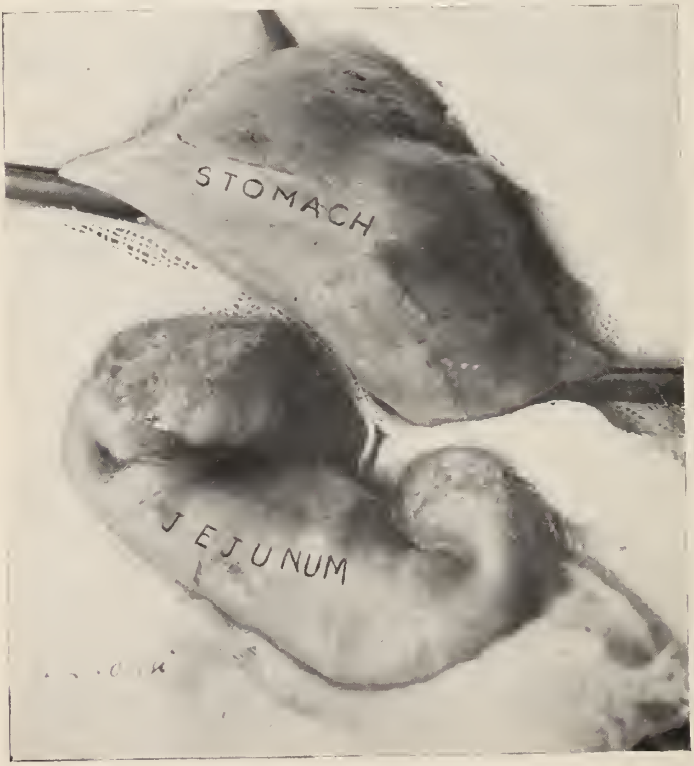


Fig. 8. Stomach and jejunum ready to be anastomosed; stomach shows two soft forceps holding it; forceps are applied in the line of intended suture, but far from cut limits.

of the stomach is then incised, (Fig. 12,) with a scapel; the incision goes deeply enough to reach the submucosa and expose the blood vessels, *which must be well exposed and then well isolated only in the middle of the incision, tied and cut between two ligatures of very fine catgut* *Fig.* 13, *care being taken to include in the ligature only the isolated* blood vessels. This step can be omitted in very urgent cases, and when the blood vessels are small. The length of the incision of the stomach and of the jejunum must be *one centimeter longer than the diameter of the jejunum, neither more nor less.* With a thumb forceps the jejunum is gently picked up and cut though with a stroke of scissors in the middle, (Fig. 14,) so as to make a small incision at the distance of about six mm. from the sero-serous suture and parallel to it; the scissors are introduced into the small opening and the incision made as long as the one made in the serosa and muscularis of the stomach. The mucosa of the stomach is now cut in the same way, between the ligated blood vessels, (Fig. 15,) by making a small opening with the scissors while holding it with thumb forceps and enlarging it with the same scissors, so as to make it of the same length as the incision of the serosa. Attention must be paid not to pull the mucosa out, but cut it in the position that it has taken after having cut the serosa and muscularis and to make the incision in the middle of the mucosa between the ligated blood vessels, so as to leave the mucosa also parallel to the sero-serous suture.

When the wall of the stomach is incised, the mucosa puffs out and overlaps the serosa and covers it completely, so that the serosa cannot be seen unless the mucosa is pulled away (Fig. 16.) We call the attention of the surgeon to this important fact, because a perfect haemostasis and good approximation of the serosa is not possible unless the mucosa is pulled away at each stitch. So, before putting in any stitch of the through-and-through suture, the surgeon must push gently away with the thumb forceps the mucosa of the stomach, so as to make plainly visible the serosa and include in each stitch the mucosa and the serosa of both the stomach and intestine; *the stitches must be put very close to each other (about* 3 *mm.) and the catgut must be kept taut; each stitch should penetrate at about* 2 *mm. from the cut edge, so as to include two mm. and not more of the margins of the serosa and mucosa of both stomach and jejunum.*

The through-and-through suture is started with either needles (in the illustration it is shown as started wih needle C Fig. 16) close to either angle of the incision and is made with black catgut N O (catgut iodized or blackened with nitrate of silver) threaded on two needles C-D. The needle enters through the mucosa of the jejunum, passes through its serosa, through the serosa of the stomach and then through its mucosa, so that the course of the needle is mucosa serosa, serosa mucosa and will be such all though the completion of the suture. The needle again enters the jejunum and then the stomach until the angle is completely closed by pulling the catgut taut as shown in Figs. 17 and 18; Fig. 17 shows how stitches are put in. Fig. 18 shows appearance of angle when the catgut has been pulled taut and the angle completely closed. Needle C is then temporarily dropped and needle D is picked up. Note that thread carried on needle D comes out from the mucosa of the jejunum, Fig. 17, so that it must enter directly the stomach through its mucosa and proceed, as advised before, through its serosa, serosa of the jejunum, and come out again on the mucosa of the jejunum. The suturing is kept on always from stomach's mucosa, stomach's serosa, jejunum's serosa, jejunum's mucosa, until the suture has reached a point at about one centimeter from the point of emergence of thread carried on needle C, care being taken in the occlusion of the angle (Fig. 19) and in the following stitches not to alter the order in which the needle goes through the stomach and the jejunum, but always going through stomach's mucosa, stomach's serosa, jejunum's serosa, jejunum's mucosa, (Fig. 20.) Note that needle D emerges from the mucosa of the jejunum, (Fig. 20.) Needle C is picked up and the suture is completed; note that thread carried by needle C emerges from the mucosa of the stomach, so that the course of the suture must be jejunum's mucosa, jejunum's serosa, stomach's serosa, stomach's mucosa and so on, until the suture is completed and the thread emerges from the mucosa of the stomach opposite to the point of emergence of the thread carried by needle D, Fig. 22. Then needle C is passed through the jejunum to the left point of emergence of thread D, so that thread C is brought out on the serosa of the jejunum at about three mm. from the cut edge; needle D is passed through the stomach to the right of point of emergence of threat C so that thread D is brought out on the serosa of the stomach at about 3 mm. from the cut edge, as shown in sketch at the left of Fig. 21. Threads C and D are then knotted together, tying the knots in the groove formed by the union of the stomach and the jejunum, by bringing the two threads parallel to the line of suture as shown in Fig. 22. We have to make a remark of the greatest importance; all the illustrations show very plainly the thread used in performing the through-and-through suture. *In actual work, no thread should be seen, the thread must be pulled taut, so that the serosa of both the stomach and the jejunum are well inverted and the suture is buried between the inverted serosa; if any thread should show, it would mean that the suture is poorly made;*. we had to show the thread in order to demonstrate the different details that are essential to make a perfect suture, but we *must emphasize again that in actual work no thread should be seen; if thread is seen, it means that the suture is not a good one and will not be perfectly hemostatic, as it will be if all the thread is buried between the inverted serosa;* it is easy to obtain a perfect inversion of the serosa and make a perfect suture, it is only necessary to follow literally the instructions given above and pull the thread taut at each stitch, remembering to pull the thread parallel to the line of suture and not upwards, because pulling upwards will tear the tissues, as the thread that is used for cutting of cheese cuts it by being pulled upwards.

(We have also to call the attention of the reader to the fact that in the illustration showing the through-and-through suture from Fig. 17 to 23, we have omitted the hands of the assistant and threads A and B—this was done in order to make the illustrations clearer, so that each stitch could be clearly shown without any possible confusion from the presence of many threads.)

When the through-and-through suture is finished, the pads are removed, and the operative field properly cleaned, and the stomach and jejunum are again isolated, this time, with one paraffinated pad or with the sheet rubber only.

The two ends of the catgut A. B. used in the sero-serous suture are gently pulled apart. The pulling must always be parallel to the suture line (Fig. 24), otherwise the serosa will be badly torn. Either needle is used first, (Figs. 25, 26) and the sero-serous suture is continued in the same manner as advised before until the knot made by tying the catgut of the through-and-through suture has been covered.

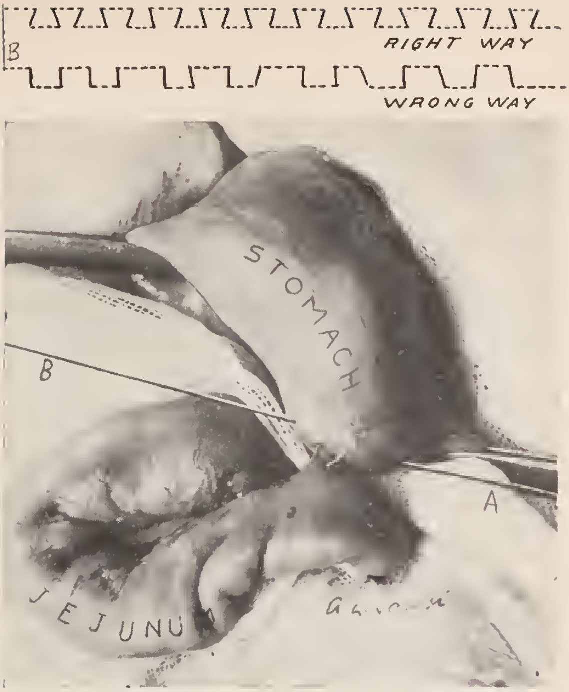


Fig. 9. Approximation of stomach and jejunum with special mattress suture; thread A is left about 20 cm. long; thread B does the suturing. Note correct and incorrect manner of applying mattress suture, dotted lines showing thread that has entered the viscus. (Diagram above.)

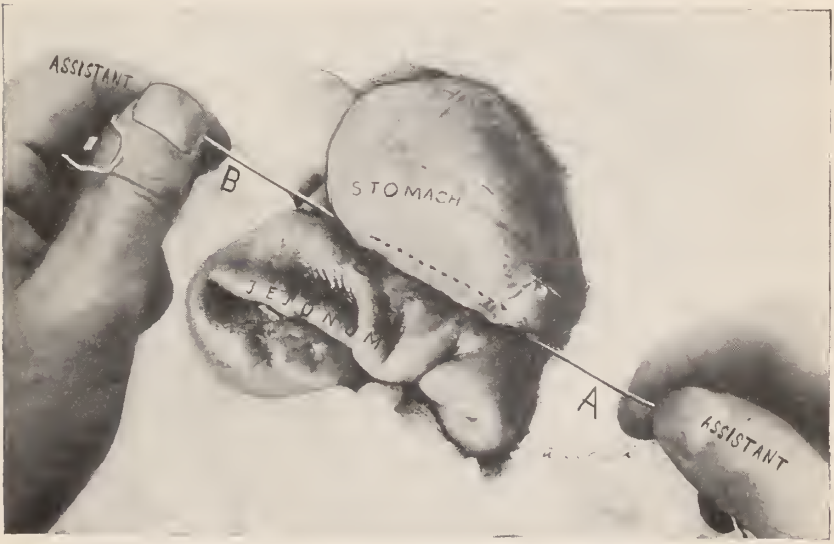


Fig. 10. Sero-serous suture pulled taut; note that no thread is seen between the approximated stomach and jejunum; dotted lines show where the stomach and jejunum are going to be incised, assistant holding thread A and B taut and keeping stomach and jejunum well out of the abdominal cavity.

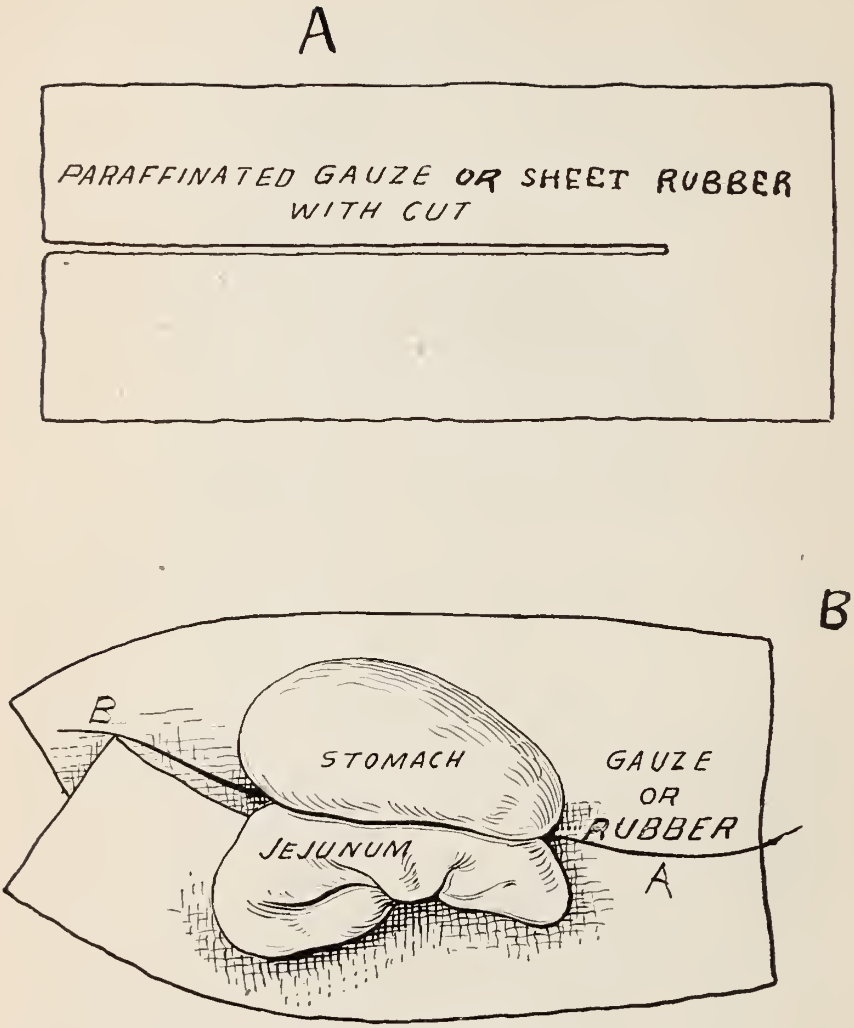


Fig. 11. (A) Paraffinated sheet of gauze or sheet rubber split so as to adapt itself to a perfect isolation of the stomach and jejunum. (B) Hands of assistant holding threads A and B have been omitted and will be omitted in following illustrations so as not to confuse the picture of each detail.)

From that point at least two more stitches are taken and then the other needle is picked up and the suture finished. In this manner, the knots made in tying the through-and-through and the sero-serous sutures are far from each other and we shall see later the importance of this detail.

As recommended for the through-and-through suture the two ends of the catgut should emerge at the end of the suture from opposite sides, that is, one from the stomach and the other from the jejunum, and be tied by keeping them in the groove formed between the stomach and jejunum, (Fig. 27,) so as to bury the knot as much as possible. Three knots are used in tying the sero-serous suture

The exposed parts of the jejunum and stomach are carefully sponged to remove any blood clots that might have formed around them; by gentle sponging is meant not the lavish washing of the parts with sponges soaked in saline solution, that is done too often, but a gentle pressure with wet sponges that have been compressed, so as to squeeze out all excess liquid, only where there is some blood clot. The paraffinated pad or the rubber is then removed and the opening made in the mesocolon is rapidly securely closed with a continuous lock suture on the stomach at about 5 mm. from the sero-serous suture made with the finest catgut or silk, Fig. 28. The stomach and intestine are replaced in the abdominal cavity by gently raising and retracting the abdominal walls, so that the stomach and intestine drop spontaneously, and not by handling them in any way. It is advisable to watch for about half a minute the operative field and see that there is no bleeding or undue tension, when the organs are replaced in their natural position and everything is satisfactory. The omentum is then caught with spongeholders covered with rubber, or with any other suitable instrument that will not injure it, and replaced over the intestines, as it was before the abdomen was opened. This is a very important step that should be done with care and never omittted.

If an anterior gastro-enterostomy is performed, the variations on the technique are the following:

Instead of making the anastomosis between the jejunum and the stomach on the posterior surface of the latter, the anastomois is made on its anterior surface; the loop of jejunum to be used is to be taken at about 30 cm. from the jejuno-duodenal angle, instead of only a few cm. from it. Instead of piercing the mesocolon, and carrying the loop of jejunum through it, the loop of the jejunum is passed over the omentum and the colon, and must reach the anterior surface of the stomach without any tension and without in any way constricting the colon. The anastomosis is made close to the lower border of the stomach. All the other steps of the operation are exactly the same as in the posterior gastro-enterostomy. We must add, however, that the jejunum might make a sharp angle when anastomosed; the best way to prevent this angulation is to be careful that there is no tension on the loop of the jejunum by not keeping it too short and by modifying the angles from sharp to broader ones, by the use of a few separate sero-serous sutures, placed according to circumstances.

Before closing the abdomen it is advisable to wash the stomach with warm alkaline solution. The abdomen is closed in the usual manner, except that we systematically drain the wound with our paraffine gravity drainage, by inserting in the wound three or four threads that have been previously dipped in melted paraffine and allowed to stiffen. The threads are brought out through a small stab wound made sideways and under the laparotomy incision. This is done in order to carry out any secretion that might form in the wound, so that we obtain more frequent healing by first intention than if this drainage is omitted. We also reinforce the abdominal suture with either elastic or wire reinforcing stitches, and as dressing we put several layers of gauze over the incision and apply immediately an elastic belt which we advise the patient to wear for about a month, after the operation. We do not insist on these details that have been described in other papers. * We feed the patient as soon as possible, but we are very careful about feeding the patient and allowing him to get up and stimulating the movements of the bowels between the fourth and the tenth day after operation. We always give the patient great quantities of liquids,—small quantities at a time. We do not give any purge, but resort to oil enemata whenever necessary. We insert rectal tubes as soon as even a minimum of discomfort is felt on account of gas in the colon, and we keep the head of the bed raised up immediately after the operation.

Discussion on Each Detail of Technique

Long Abdominal Incisions and other Details: We advise a rather long laparotomy incision—upward retraction of the abdominal wall, our special paraffine packing and preparation of the skin with rubber-ether solution instead of iodine, because small incisions, the retraction as usually performed, the usual gauze packing and iodine are the most frequent causes of formation of post-operative adhesions. We advise head lamp, because generally the light in the operating room cannot be directed well into the depth of the abdomen, and we believe that one essential point in the perfect technique of gastro-enterostomy is the exact vision on the part of the surgeon, of the position and the relations of the jejunum, which cannot be ascertained by the usual way of searching the jejunum with the finger and then lifting up the same by hooking it with the index finger. The jejunum normally can be anastomosed with the stomach without any trouble, *but there are cases in which the position of the jejunum is not normal and, if we want to avoid failures, we have to know in all cases the exact position of the jejunum in order to perform our gastro-enterostomy according to the actual position of the abdominal organs.* The only way to ascertain the exact position and relation of the jejunum is by sight. We catch the stomach with soft clamps or better with sponge holders, covered with rubber, because hard clamps or piercing clamps will damage the stomach and we believe that we are right in thinking that the least damage caused, the better. We catch the stomach at about 2 cm. from the intended line of incision, because in this way we have ample space in which to start and finish the deep layer of the sero-serous suture. The jejunum does not need to be closed with clamps or tied with any kind of thread or gauze, because if we can raise the stomach and the jejunum fairly well out of the abdominal cavity and we pack as carefully as we have recommended the stomach and jejunum, there will not be any contamination of the abdominal cavity from either viscus.

Uselessness and Danger of Clamps in Gastro-Enterostomy: Inventors of clamps had a hard time in introducing their use to the profession—now it will be as hard to persuade surgeons that clamps are not only useless, but dangerous and see them discarded.

We believe that if our technique is followed literally, it will render the use of clamps obsolete for the following reasons: the stomach and the jejunum are brought and kept out of the abdominal cavity more

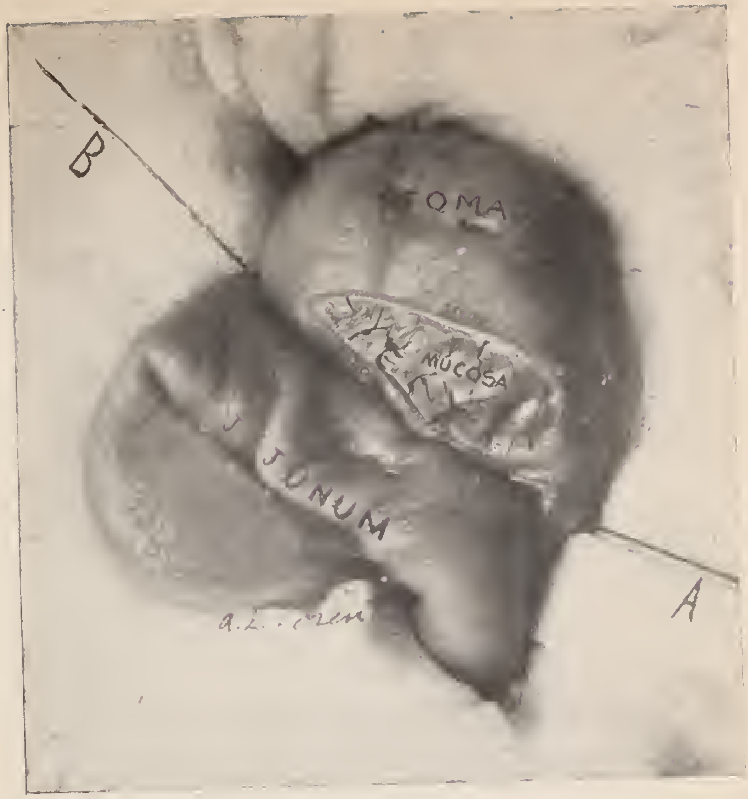


Fig. 12. The stomach has been incised down to the mucosa, exposing the blood vessels.

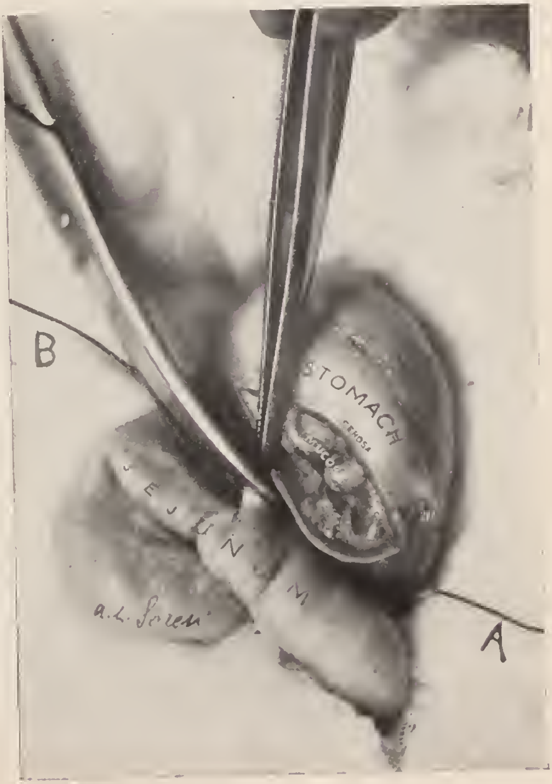


Fig. 13. Surgeon holds jejunum with thumb forceps while making the incision with scissors.

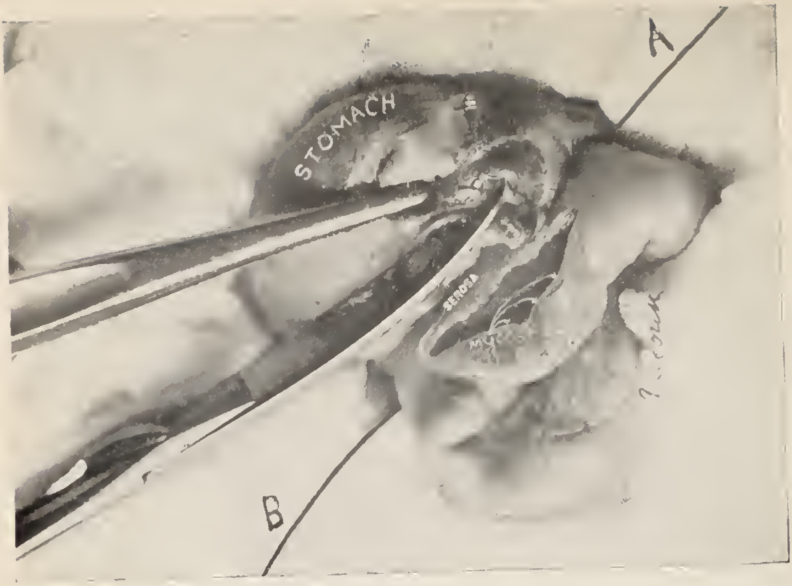


Fig. 14. Incision of the mucosa of the stomach, holding it with a thumb forceps and cutting with scissors.

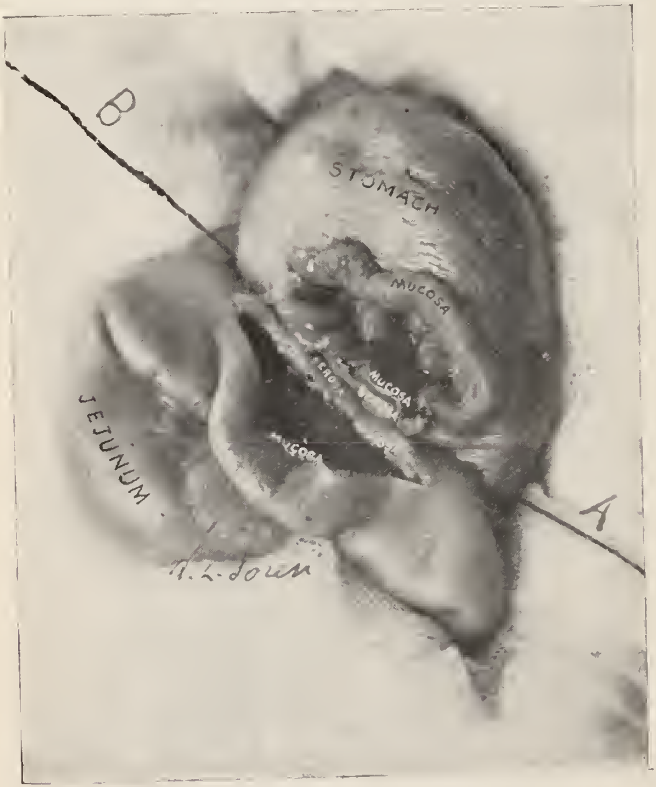


Fig. 15. Appearance of the stomach and jejunum ready for the through-and through suture; note large extrusion of stomach mucosa, which must not be excised

rapidly, safely and securely, by the thread used in the posterior row of our sero-serous suture, then, with the help of clamps. Think of the difficulty met at times in placing the clamps, of the pulling on the stomach and jejunum in order to make room for them, of the trauma caused in placing them properly, of the occasional slipping of the stomach and of the jejunum, and then you will see that we are right in claiming many advantages for our method. Our procedure is more rapid because, obviously the time of placing the clamps is omitted and therefore saved—more safe because the parts kept out of the abdomen are only the ones upon which the surgeon has to work as there are no cumbersome clamps to place, which require more space and cause unnecessary pulling; more secure because naturally there is no possibility of slipping or misplacing the clamps, clamps not being used and the suture being very steady.

The surgeon has not to fear any late hemorrhage because by tying the blood vessels of the stomach and the application of the inner or through-and-through suture all the blood vessels are completely controlled in full view while they could bleed, so that the surgeon can feel sure that the hemostasis is definte; while with the use of clamps no one can be sure that some blood vessels might not bleed, after the clamps are removed and the surgeon has no means to know whether bleeding takes place or not. In patients with arteriosclerosis the clamps might damage the hardened blood vessels and favor secondary hemorrhage or the formation of hematomata, as reported by many operators. We also believe that clamps are the most potent factors in the production of abnormal adhesions, because they traumatize the serosa, which is already irritated by the handling of the stomach and of the jejunum and in practically all cases is more or less infected: our experience has taught us that infection, even slight, associated with trauma constitutes the most potent factors in the production of adhesions.

We shall refer also to the fact that clamps favor post-operative vomiting by unnecessary pulling on the stomach and jejunum, as we shall show when dealing with this subject. Finally we shall mention that the surgeon accustomed to work according to the technique we have explained, can work more rapidly and neatly than when using clamps. The only objection that could be made against our technique is that leakage of stomach and intestinal contents is liable to occur when clamps are not used, especially if the patient should vomit. We shall answer that vomiting will practically never occur if the patient is properly anesthetized and our technique is followed literally. The most potent factor in producing vomiting is the pulling on the mesenteries which is reduced to a minimum with our techique. If the patient does not vomit during the performance of the inner suture, leakage will not take place, because the opened portions of the stomach and the jejunum are kept out of the abdomen and are therefore on a higher plane than the rest of the stomach and of the jejunum, the contents of which would therefore by gravity fall on the lower portions, and let us add, that if the stomach has been washed, there will be nothing to leak out of the stomach which has been emptied by the lavage, and out of the jejunum, the first portion of which at the time of the operation is certainly empty: the short time required for the completion of our inner suture (three or four minutes) still minimizes the probabilities of leakage which, even if it should occur, could not infect the abdominal cavity, if our manner of packing is adopted.

Post-Operative Vomiting: Post-operative vomiting may be due to many causes. The main ones are: *more or less pronounced ileus,* which if it does not depend on torsion of intestine, is avoided and completely prevented by administering cleansing enemata before operation and applying the rectal tube as soon as there is the minimum discomfort caused by gas: *irritation of the gastric mucosa due to the ether,* this is prevented by washing the stomach as advised: *by some error in technique,* which has to be avoided by operating in every case following the technique we have advised; vomiting however, is most frequently due to the pulling of the stomach and the intestine during the operation. We shall prove this fact in another paper. Here we shall only mention that any unnecessary pulling on the stomach and on the intestine has to be avoided, because it will favor post-operative vomiting and this is one of the reasons why we deprecate the use of clamps, the application of which requires an unnecessary pulling on the stomach and on the intestine, and we recommend extreme gentleness in handling the abdominal organs. Unless there is some serious complication such as angulation of the gut, that must be attended to surgically, vomiting is cured or greatly relieved by washing the stomach with warm alkaline solutions and giving cleansing enemata. These measures should always be resorted to, if the patient feels uncomfortable on account of vomiting, before attempting any other procedure.

Replacing the Abdominal Organs: We advise to replace the abdominal organs by lifting up gently the abdominal walls and letting the organs fall in their natural position, because this is the only manner of avoiding useless traumatization of the abdominal organs and it is the easiest manner of replacing them. We recommend strongly to replace the omentum over the small intestine and spread it well, not only because this meets anatomical and physiological conditions, but because the perfect replacing of the omentum prevents the formation of many post-operative adhesions, which might cause trouble later.

Position, Direction, Length, Shape, Manner of Making and Number of Anastomotic Openings: The position, direction, length, shape, manner of making and even the number of the gastro-enterostomotic openings have been the subject of many interesting controversies. Authors with great experience claim to obtain better results by adopting certain points of technique which are condemned by other authors also with great experience, who claim to obtain good results by adopting other points of technique absolutely contradictory, as for instance is the case of the peristaltic or anti-peristaltic position to be given to the jejunum, both claimed to be the best by diffrent authors. Let us discuss briefly each of these points.

The position and the direction of the gastro-enterostomotic opening: It is recommended to make the opening very close to the pylorus and to the duodeno-jejunal angle for the following reason: The food is physiologically accustomed to pass through the pylorus, therefore the more the new opening is near to the physiological outlet, the better it will functionate. The placing of the opening near the duodeno-jejunum angle, avoids vicious circle. Without entering into a discussion about the anatomo-physiological conditions by which vicious circle is avoided by making the incision in the jejunum close to the duodeno-jejunal angle, we shall state that experience has shown, that this is the correct technique to be followed. Still controversed is the position of the incision on the stomach. The idea of making it close to the pylorus is only apparently physiologically correct. Indeed if it is

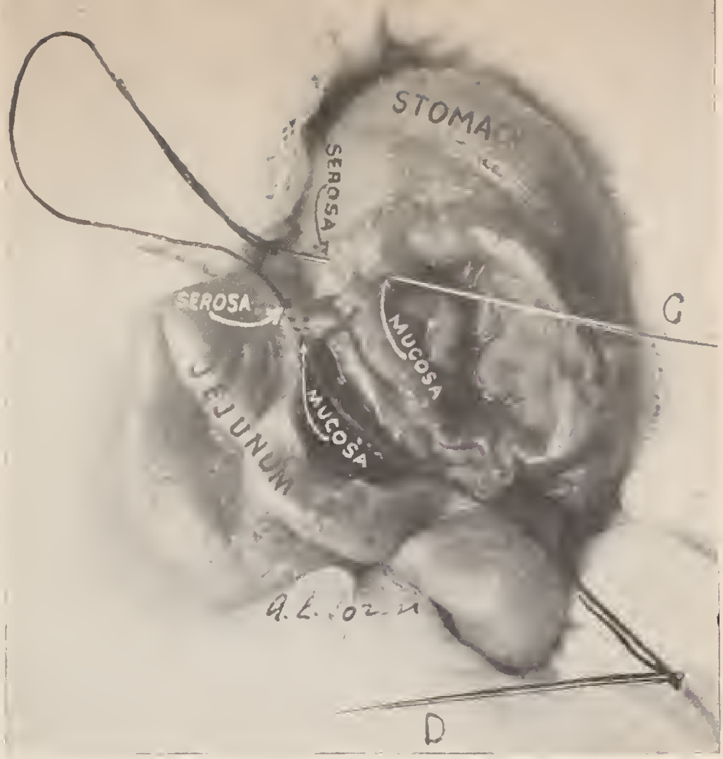


Fig 16. Needle C begins the through and through suture of the cut edges of the stomach and of the jejunum; note how angle is easily closed in plain view.

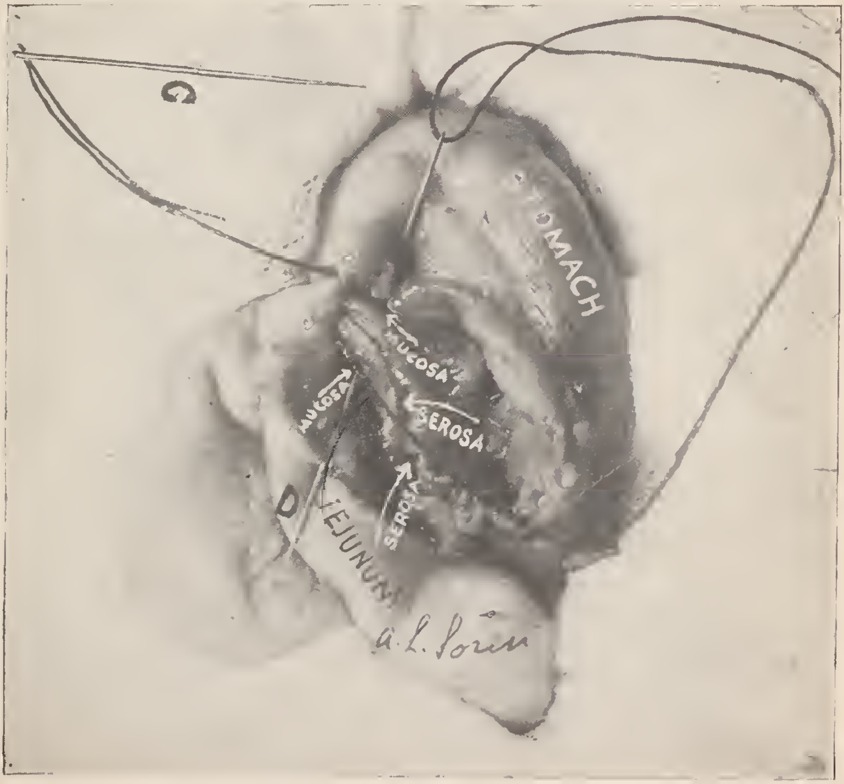


Fig. 17. Needle C, after having closed angle is dropped, and needle D takes up the suturing; note that thread D was emerging from mucosa of jejunum and enters mucosa of stomach.

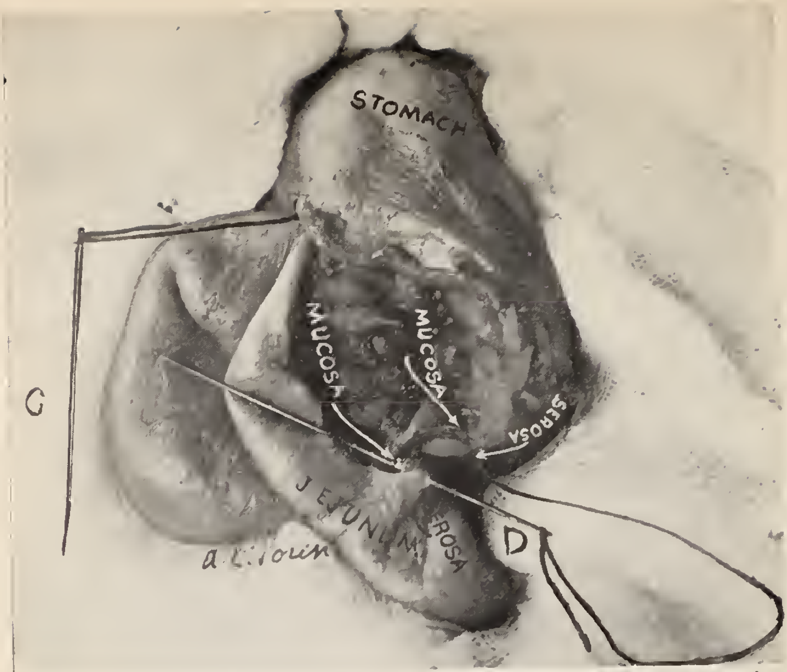


Fig. 18. The posterior layer of the through-and-through suture is finished and the other angle is closed in plain view, without changing the direction of thread, or putting any knot.

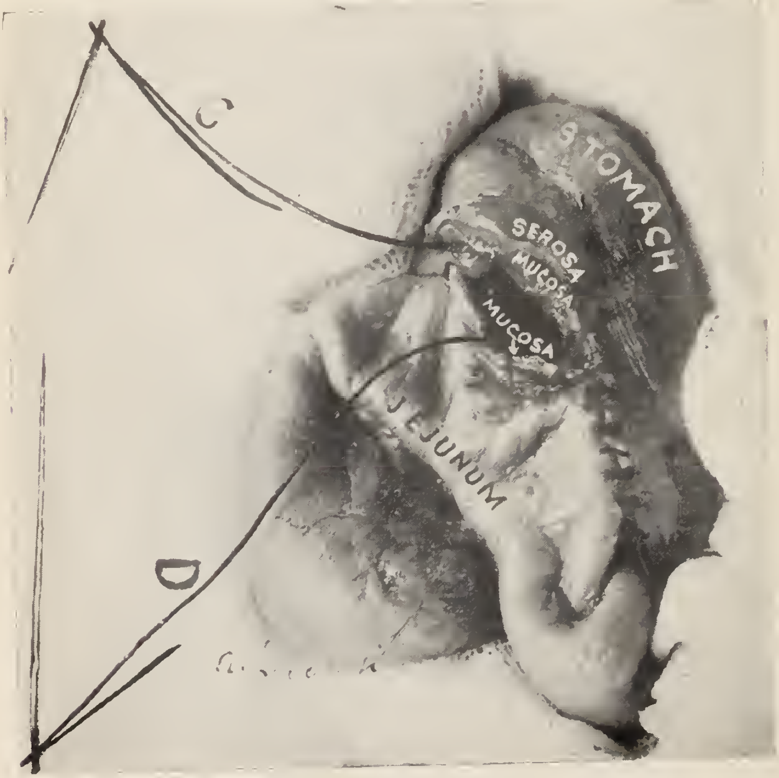


Fig. 19. Suturing with needle D is continued until about two-thirds of the cut edges have been sutured; then needle D is dropped; note that needle D emerges from the mucosa of the jejunum.

true that the food is physiologically accustomed to pass from the stomach into the intestine through the pylorus and that the X-rays have shown that it keeps passing through the pylorus even after a new opening has been made in the stomach by a gastro-enterostomy, this does not mean that the gastro-enterostomotic opening should always be made as near the pylorus as possible. In fact in some patients, the food remains in the stomach for an abnormal length of time, causing a series of troubles known to all practitioners of medicine. This means that the surgeon in correcting, or trying to correct the pathological condition of the stomach, has not to think of the function of the stomach as it is in normal subjects, but of the function of the stomach as it is in each pathological subject, and act accordingly. We have therefore to make our incision in the stomach according to the following principles: Gastro-enterostomy is mainly a drainage operation. We have to make the gastro-enterostomotic opening where it will allow a good permanent drainage of the contents of the stomach. It is evident, therefore, that the best position has to be determined case by case, because the conditions of the stomach vary from patient to patient, and what might be perfect for one, might be unsatisfactory for another. *The correct point where the incision of the stomach has to be made can be determined only after a careful and intelligent examination with the X-rays,* which should determine the lowest point to which the stomach falls. Indeed we believe that anyone would think that he was not doing a correct operation, if he should make the incision near the pylorus in a stomach dilated and ptotic as the one represented in Fig. 29 C. In fact if such stomach with little or no stenosis of the pylorus does perhaps never empty completely, it means that pathological conditions have made the communication through the stomach and duodenum insufficient and we believe that, no matter what the mechanism of such insufficiency is, except in cases of stenosis of the pylorus, a new opening made by the surgeon between the stomach and the jejunum would help very little, if made very near to the insufficient natural opening, that is, the pylorus. So we think that in selecting the point where the incision of the stomach should be made, we have to be guided by the following considerations:

1. Gastro-enterostomy is mainly a drainage operation;
2. In normal physiological conditions the food remains in the stomach several hours;
3. We have to strive to reproduce physiological conditions, or as near to physiological, as possible, when we operate.

In order to meet the disiderata of consideration 3, we have to operate in such a manner, that the food after a gastro-enterostomy, remains in the stomach about the same time that it does in healthy physiological conditions. Here the X-rays are indispensable to guide the surgeon. In normal physiological conditions, the body of the stomach is lower than the pylorus as shown in Fig. 37, so that the food is pushed toward the pylorus and passes through it in small quantities at a time, and begins to pass only after a certain time that it has entered the stomach and only when the pylorus begins to relax. In some pathological conditions we have stomachs which are greatly distended, the contractility and the tone of which is decreased, or the pylorus is stenosed or contracted. The result of these conditions is that the food is not passing in the duodenum in normal time; we must aim to correct these conditions with a gastro-enterostomy. How can we correct them physiologically and therefore rationally?

We have to think that the opening we make between the stomach and the jejunum cannot work, as the pylorus does in physiological conditions, because it cannot contract as the pylorus does in order to keep the food in the stomach for a certain time, so that we have to take into consideration the factors that contribute to the physiological emptying of the stomach and make the new opening in the position where it will accomplish, as well as possible, the function of the impaired or abolished pylorus. Therefore we have to take into consideration the following facts: First, the food has to remain in the stomach a certain time; Second, two factors help to keep the food in the stomach for a certain time,—the contraction of the pylorus and the position of the pylorus, which is in a higher plane than the body of the stomach; Third, two factors contribute to the emptying of the stomach,—the permeability of the pylorus and the contractility, or tonus of the stomach walls, which is somewhat influenced by the normal or pathological dilatation of the stomach itself. When we perform a gastro-enterostomy, we might have to deal with any one or all of these conditions: normal pylorus, spasm of the pylorus, stenosis of the pylorus more or less severe, up to complete occlusion of the same: normal contractility of the wall of the stomach; dilatation more or less severe of the stomach with decreased or impaired contractility of its walls; external conditions altering the function of the stomach (by external conditions, we mean those conditions, such as adhesions, cicatrical tissues formed around ulcers or wounds, general ptosis of the abdominal organs or lack of tonus of the abdominal walls). It is evident that if all these factors are taken into consideration it will be seen that the rule generally given of making the gastro-jejunal opening, as near the pylorus as possible, is not correct, and that many more gastro-jejunal openings would functionate properly if made taking into consideration the factors mentioned above, than if these factors are neglected. So we see how illogical it would be to make a gastro-jejunal opening near the pylorus in a stomach such as represented in Fig. 29 C. It would be impossible to give precise indications on the best point to make the gastro-jejunal opening for all cases, because each case must be studied accurately and operated according to its peculiar conditions. The general rule that can lead the surgeon is: determine the lowest point reached by the greater curvature, by examining the patient in the erect position with the X-rays. The incision on the stomach must be made at the point that corresponds to the distance between the normal body and the pylorus, so that the incision is proportionately nearer the pylorus, the higher is the body of the stomach and further from the pylorus, the lower is the body of the stomach. Schematic illustrations 29 A B C explain better than words this idea. This point, however, is not a fixed one—on the contrary it must be modified according to special circumstances, taking into consideration these essential points. The food must remain in the stomach for a certain length of time, so that the new opening can serve to regulate the passage of the food, remembering that the new opening allows more easily the passage of food from the stomach to the intestine, than the normal pylorus, because it does not contract as the pylorus does, and that in some pathological conditions, the contractility of the stomach is decreased. Perhaps in many cases the lack of contraction of the new opening and the decreased tonus of the walls of the stomach compensate each other in regulating the emptying of the stomach itself. If the surgeon has to deal with a stomach, the walls of which have a good tonus, he shall make the

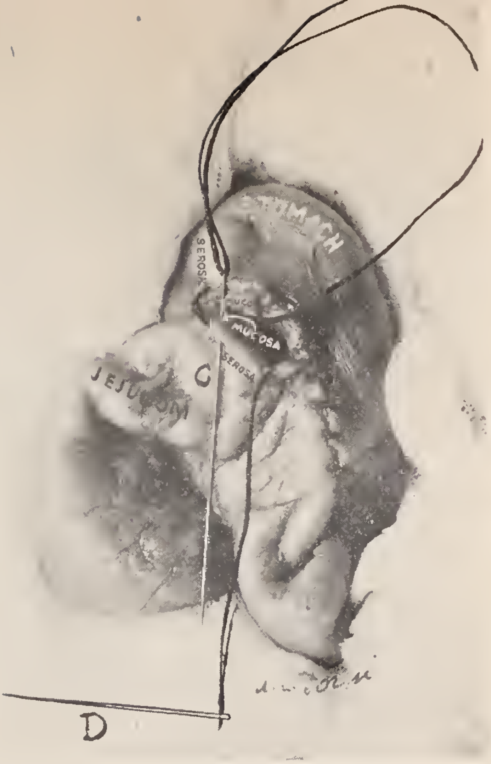


Fig. 20. Having dropped needle D, needle C is taken up, the thread is pulled and the suture continued until the cut edges of the stomach and jejunum are completely approximated.

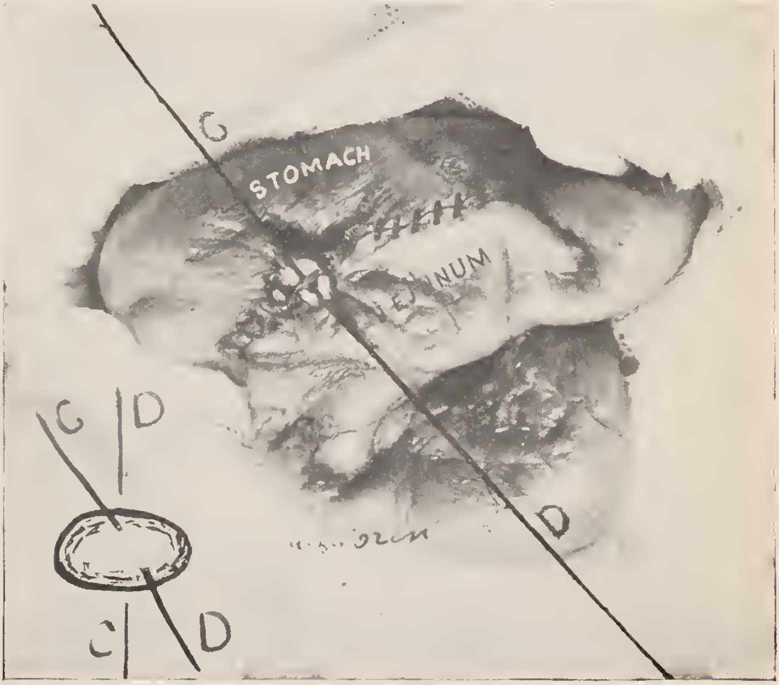


Fig. 21. Through-and-through suture finished; note that thread C emerges from the mucosa of the stomach, while thread D emerges from the mucosa of the jejunum; the two threads are carried out of the opposite viscus on the serosa; that is, thread C on the jejunum, and thread D on the stomach.

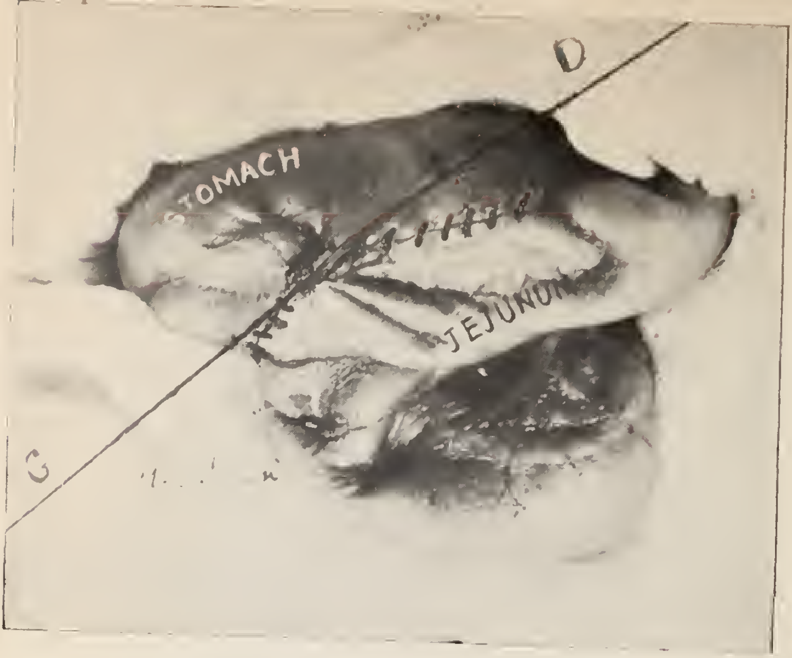


Fig. 22. By carrying out threads C and D on the serosa and tying them in the groove, the mucosa is completely inverted and nothing is seen but serosa; threads are cut short.

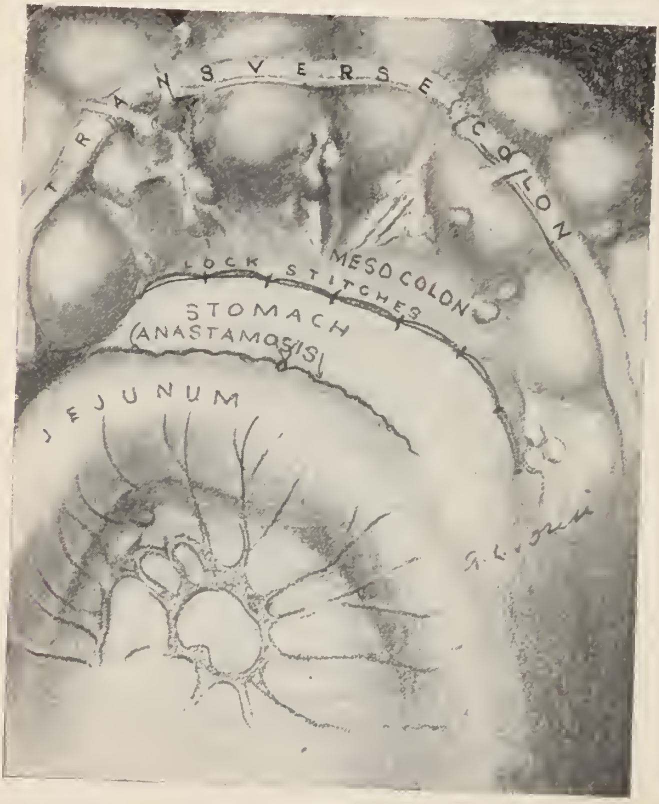


Fig. 24. At this moment the opening made in the mesocolon can be closed with a lock suture, while the assistant holds the stomach and jejunum with thread A B, which has been omitted in the illustration.

opening nearer the pylorus: if, on the other hand, he has to deal with a stomach greatly dilated and the walls of which have lost a great deal of their power of contractility, he will make the opening further from the pylorus and will have to make it further from the pylorus, the less is the tonus of the wall of the stomach, because there is more danger in a too long permanence of the food in the stomach than in a too rapid passage of it from the stomach into the intestine.

Another most important point has to be taken into consideration. In cases of duodenal ulcers, or of ulcers located at the pylorus, or in the stomach near the pylorus, gastro-enterostomy aims to deviate the passage of the acid contents of the stomach from the ulcerated area; in all these cases it is evident that the closer the incision is to the pylorus, the more probable will be the passage of some of the acid stomach contents through the pylorus, and therefore it is evident, that the incision must not be made near the pylorus, but at a certain distance from it. This distance has to be gauged according to the considerations made above and considering the fact that for therapeutic purposes it is better in these cases to have the contents of the stomach pass into the intestine rather rapidly, little modified by the gastric digestion than to have the acid contents of the stomach pass over the ulcerated area.

The incision on the stomach, no matter whether it is made near or far from the pylorus, has always to be made as near as possible to the anterior wall, because the circulation at the line between the anterior and the posterior wall of the stomach is better than far from it.

The subject of the position of the incision of the stomach in gastro-enterostomy is very important and we do not believe to have solved as yet all the points concerning it. We shall do it later by taking an exact record of our cases and with the help of other surgeons who have already volunteered to do the same, hoping to have also the valuable cooperation of the members of this Society; here we have aimed to show that the idea of making the incision always near the pylorus is not correct, and to show how the surgeon can direct his judgment, so as to make an incision as rational, as it is possible to make, according to our present knowledge.

Direction of Incision: The direction of the incision has to be such that the stomach and the jejunum can be anastomosed without any twisting of the jejunum, or any pulling on the same. The best manner of preventing vicious circle is to anastomose the jejunum to the stomach in such a manner that the position and anatomical relations of the jejunum are not altered and the jejunum is supported by the ligament of Treitz: this can be accomplished only by direct sight constatation of the relations of all the abdominal organs concerned in the gastro-enterostomy. The incision in the jejunum should be parallel to, and at an even distance from, the attachment of the mesentery, so as to have the blood circulation evenly distributed on the two edges of the incision.

Length of Incision of Stomach and Jejunum: We advise to make the incision of the stomach and jejunum about one cm. longer than the diameter of the jejunum for the following reasons: We have to allow a certain constriction of the anastomotic opening caused by the formation and consequent retraction of scar tissue around the anastomotic opening itself, and we believe that the allowance of about one cm. is rational, so that the final opening will have about the same diameter as the diameter of the jejunum. We believe that an opening which is of the same size as the diameter of the jejunum is the most rational opening for the following reasons: It is sufficient to allow a free passage of the contents of the stomach into the jejunum and we believe it is rational to have an opening in the jejunum that is not larger than the diameter of the same jejunum, because as long as all the contents of the stomach have to pass through the jejunum obviously nothing could pass into the jejunum that was larger than the jejunum itself. Even supposing that a large lump of food could be engaged into the anastomatic opening between the stomach and the jejunum, this lump would not pass into the jejunum unless it is smaller than the diameter of the jejunum itself, if larger, it would only clog the anastomotic opening. In fact, from a physical point of view, or as far as drainage is concerned, the passing of food from the stomach to the jejunum through the anastomotic opening between the stomach and the jejunum can be compared to a funnel (Fig. 29). The upper portion of the funnel is represented by the stomach, the lower by the jejunum (Fig. 29A). In a funnel, the ratio of the flow and the passing of anything through it, is regulated by the size of the lower and narrower opening (Fig. 29B) represented in gastro-enterostomy by the jejunum, and it is obvious that the ratio of flow would not be influenced by enlarging any of the upper portions of the funnel, just as it would not be by enlarging the anastomatic opening between stomach and jejunum. If the opening is made larger, not so much for the supposedly improved drainage, but in order to prevent a dangerous stenosis of the same, reasoning that the larger the opening, the better and safer, because it can undergo a certain amount of constriction without causing any troubles, while the same amount of constriction might be dangerous if the opening is smaller, we have to answer that this reasoning, apparently logical, is based on wrong principles. In fact the size of the gastro-enterostomic opening is regulated by two factors; functionality and amount of scar tissue: *if the gastro-enterostomic opening does functionate little or not at all, it will become occluded in a very short time, no matter what the original size of the same is;* this is absolutely axiomatic, because nature tends to occlude any non-fuctionating and therefore useless openings. To avoid therefore stenosis or occlusion of the gastro-enterostomotic opening. the opening has to be made only in cases that require a new functionating opening and in the position in which this opening can functionate properly. The subject of the indications for gastro-enterostomy will be dealt with in another paper. To limit the amount of scar tissue around the gastro-enterostomic opening is the scope of the technique we have described, which aims to approximate closely all the tissues with a minimum of trauma, and we recall the immense importance of a good approximation of the mucosas *not traumatized,* which is the greatest factor in reducing to the minimum the scar tissue around the gastro-enterostomic opening, minimum indispensable to obtain a good union. We have also to mention a real danger inherent to a too large gastro-enterostomic opening—this danger is the eversion of the mucosa of the jejunum opposite the opening into the stomach: in our experimental work, we had cases of severe ulceration of the mucosa of the jejunum, this ulceration was noticeable specially in animals in which a large opening was made and which were sacrificed from a few days up to four weeks after the opera-

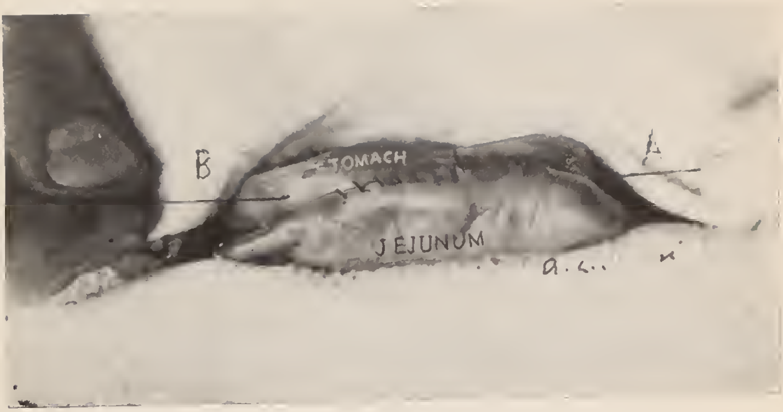


Fig. 24. The two ends of thread A-B are gently pulled apart.

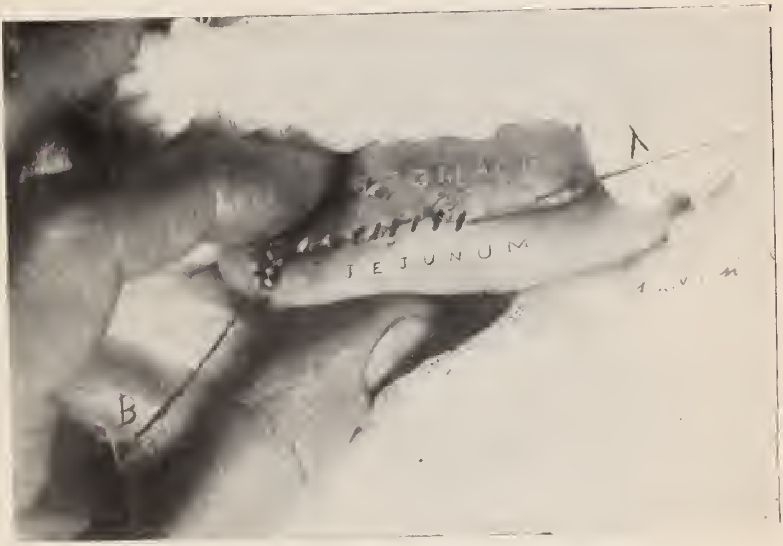
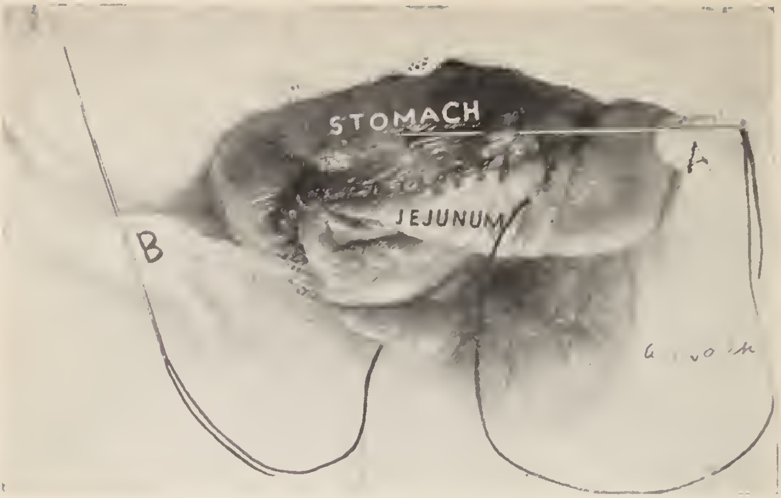


Fig. 25 Thread A brought out through serosa preparatory to starting the anterior layer of serous suture.



Figs. 25-26. Illustrations show thread A emerging from the serosa of the stomach at a certain distance from the through-and-through suture, and starting the anterior layer of the sero-serous suture.

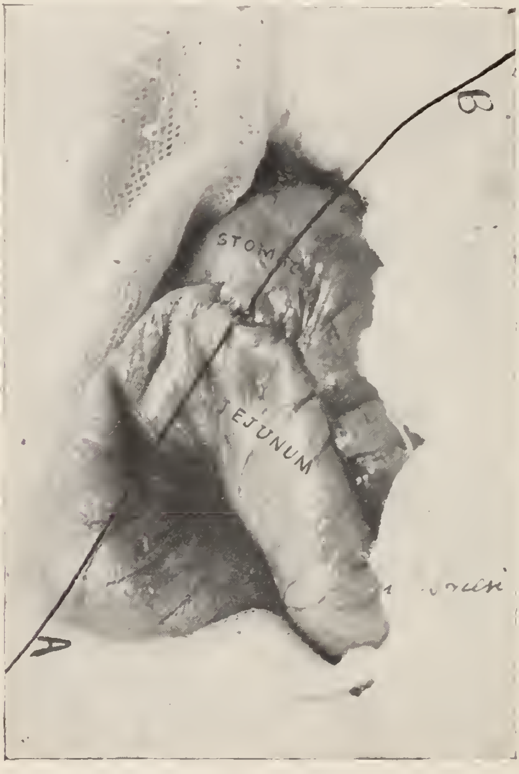


Fig. 27. Sero-serous suture finished; note that threads A and B emerge, one from the stomach, the other from the jejunum, one exactly opposite to the other, so that when they are tied the serosas are perfectly approximated.

tion; after four weeks, when the animal had survived, the ulcerations were healing or were already healed, but we noticed constantly that in those favorable cases the anastomotic opening had narrowed to a very remarkable extent. This proves that large openings are not only unnecessary, but might be dangerous.

Shape of Opening and Manner of Making It: The incision of the stomach and jejunum is linear and is made parallel to and at 6 cm. from the sero-serous suture, because this amount of tissue, (Fig. 10) is sufficient to insure good approximation and hemotasis and there is naturally no use in sacrificing more tissue than is necessary. The incision of the stomach is limited first to the sub-mucosa, because in this manner the blood vessels are well exposed, well isolated and, when necessary, tied between two ligatures. We believe that the isolating and tying of the blood vessels without including any tissues is a very important point in perfect technique for gastro-enterostomy. We are assured in this manner that no secondary hemorrhage will occur, and we have a bloodless operative field without resorting to the use of clamps. The incision of the mucosa must also be parallel with the sero-serous suture and the incision made through the serosa on all sides of the opening.

Trimming the Mucosa: *We deprecate as strongly as possible, the practice of cutting off a piece of mucosa or, for that matter, a piece of any tissue, either from the stomach or from the jejunum, with the idea that there is too much of same.* In order to explain how illogical is the procedure of cutting away anything, we have to remember that there is no such thing as super-abundant mucosa, because if at the operation the mucosa appears to be in the way, to be super-abundant, it is only because the mucosa has a much larger surface than the other coats of the stomach, so that in natural conditions, having to adapt itself to the surface of the other coats, especially of the muscularis which are external to it, the musoca slides on the submucosa, which is constituted of loose connective tissue, and wrinkles forming the so-called *plicae mucosae.* When the stomach is incised either completely or as far as the submucosa, the mucosa is no longer constricted by the outer coats of the stomach, and therefore is freed along the line of incision, puffs out and distends itself, as much as the submucosa to which it is loosely attached along the margins of the incision, allows it. If we take away any portion of the mucosa, we will have around our opening, a lack of mucosa, so that when the stomach becomes distended the mucosa will be pulled at that point, probably being torn at the points where it has been sutured, and so, not only will this retard the healing, but also favor secondary ulcers and formation of excessive scar or connective tissue. As there is no utility whatsoever in cutting away tissue, we do not see the reasons why these tissues should be cut away, complicating and rendering more dangerous the operative procedure. Many surgeons have cut away portions of the wall of the stomach and the jejunum around the incision or only the mucosa with the idea of making a round opening. We beg you to observe that experimental opening, not illustrated here, made purposely of different shapes, some oblong, some square, and one merely linear, all appear round on subsequent inspection: in some of them only the mucosa was cut off, in others the three coats were cut off, and these tissues were cut off in such a manner as to make the opening round, rectangular, oblong, or in one case, nothing special was done. The evident result is, that no matter what we have done, or what we have not done, the opening has a tendency to become circular. This is explained easily by the law of adaptation: the organs adapt themselves to the function, and as obviously, the round shape is the best for openings that have a continuous function, the opening that the surgeon makes between the stomach and the jejunum will become round, if it functionates, no matter what shape the surgeon has given to it at the operation.

Number of Openings Between Stomach and Jejunum: Some authors even recommended to make more than one opening between the stomach and jejunum, but this practice is not followed, except perhaps in some cases of bilocular stomach, and so we only mention it.

Sutures and Mechanical Devices: Either sutures or mechanical devices are used in uniting the cut edges of the stomach and of the jejunum. They should naturally aim to obtain a perfect union between the stomach and the jejunum. A perfect union should be like the union that nature would have made, if the gastro-enterostomatic opening should be found in natural physiological conditions. As a type of an ideal anastomosis which the anastomosis between the stomach and the jejunum that we surgeons make, should resemble, we can take the anastomosis between the ileum and the caecum: the more our anastomosis will resemble this natural one, the more perfect it will be. The means employed by the surgeon in effecting the union between the cut edges of the stomach and of the jejunum *must prevent leakage, hemorrhage, formation of excessive scar tissue along the line of union, must not be a coefficient in the formation of abdominal adhesions and of secondary or peptic ulcers.*

Let us state certain principles that are axiomatic in regard to the anastomosis between the stomach and the jejunum, the same principles holding good for any portion of the gastro-intestinal tube. *All sutures and all mechanical devices strangle more or less the tissues included in them: the tissues which are more or less strangled by the sutures or the mechanical devices lose in part or completely their vitality; tissues that have lost more or less their vitality hold the sutures or the mechanical devices more or less firmly according to their vitality, naturally the more vital they are, the better they hold sutures and mechanical devices: the power of the tissues to hold sutures or mechanical devices is what makes possible the sealing of the incisions made in the stomach and in the jejunum, this power decreases from the very first moment that the anastomosis is made and becomes nil after from 3 to 8 days: this makes it imperative for some other agent to come into play in order to seal the stomach and the jejunum: this new agent is an exudate that forms around the cut edges and which can be compared to the exudation produced in bones around the seat of fracture: this exudate comes only from the serosa, and its formation is favored by irritation of the serosa itself and good blood supply; the final organic union is a granulation process; the healing of all wounds penetrating the mucosa representing always in all cases a healing by second intention; in an anastomosis between any portions of the gastro-intestinal canal, we have to distinguish several periods; first. the anastomosis is made leakage- and hemorrhage-proof by the sutures or mechanical devices applied by the surgeon; second period, the cut edges are held together by the combined power of the sutures or mecanical devices which is decreasing rapidly and the exudate formed on the serosa; third period, the suture or mechanical de-*

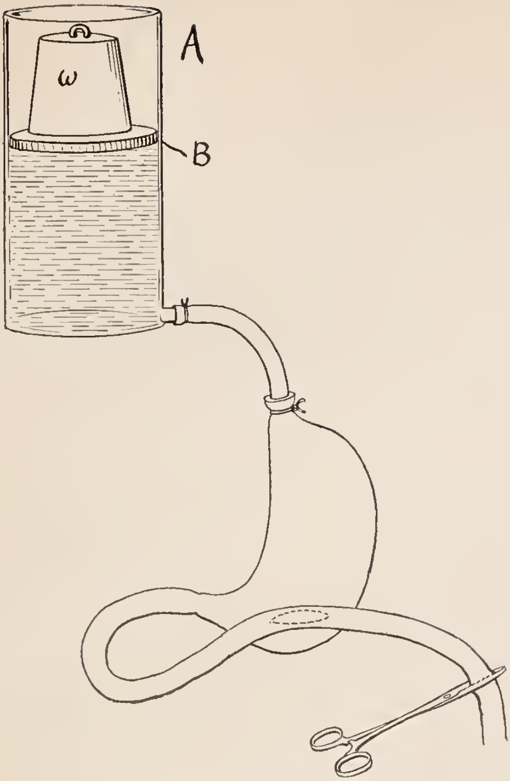


Fig. 28. Schematic view of apparatus to test the resistance of the anastomosis. *A*. Tank containing water is attached to the cardia—amount of weight put on washer *B* measures exactly the resistance of the anastomosis.

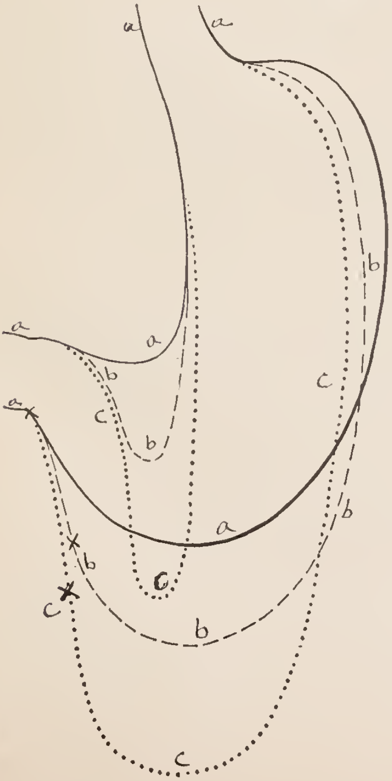


Fig. 29. Diagramatic view of the different portions of the normal and ptotic stomach; crosses indicate the point where the anastomosis should be made, according to the position of the stomach.

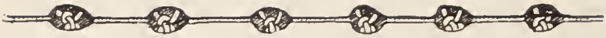


Fig. 30. Diagramatic view demonstrating that knots do not allow an immediate contact of the serosas, so that where there is a knot there is a weak point; when sutures are made with separate stitches, which obviously require as many knots, there will be many weak points along the suture line, which will render it weaker than if a continuous suture is used.

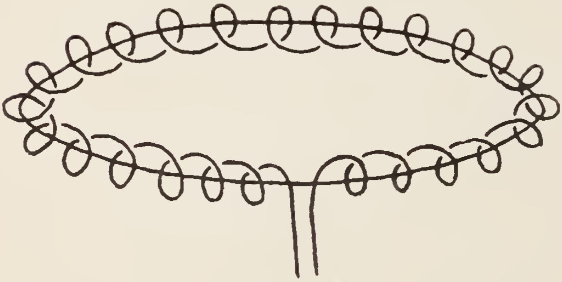


Fig. 31. Schematic view of how a suture of the edge of the stomach and of the jejunum is a continuous one and therefore does not need to be reversed at the angles; the opening representing circular edges, so that the same stitch can be carried all around from the beginning to the end of the suture.

vices do not have any hold on the cut edges which begin to slough off, the cut edges are held together by the exudate that has formed on the serosas around the cut edges; fourth period, the cut edges have firmly adhered by organic union resulting from the organization of the exudate formed on the serosa, and healing of the muscularis and mucosa. It follows that the means employed by the surgeon in effecting the anastomosis between the stomach and the jejunum *must preserve the vitality of the cut edges as much as possible; must prevent hemorrhage and leakage until organic union is formed; must bring into play all the elements that will favor the formation of perfect and early organic union.*

The elements that favor the formation of early organic union are: *irritation of the serosa; close approximation of the serosa of the stomach and of the jejunum; good blood supply.*

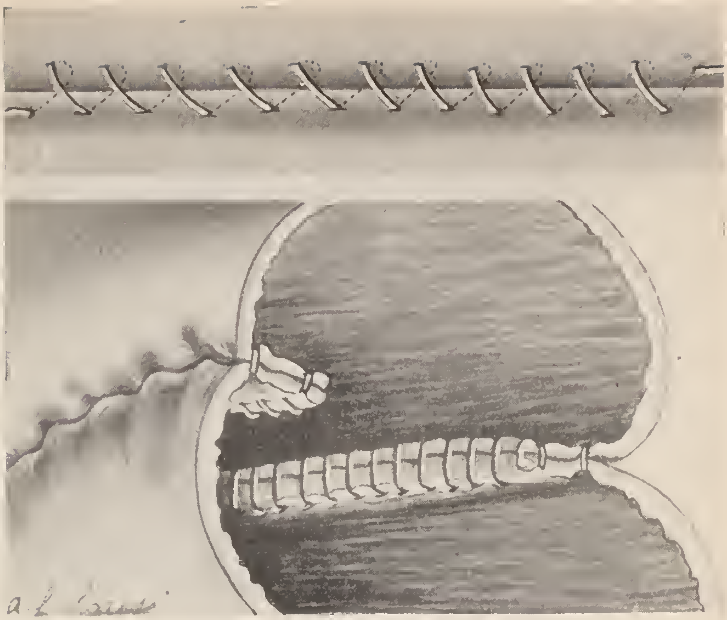
A close approximation of the cut edges of the stomach and of the jejunum will prevent *immediate leakage and hemorrhage* and the closer the union and broader the amount of the tissues around the cut edges brought together, the more positive is the *immediate prevention of leakage and hemorrhage; this does not mean that an exceedingly close approximation of a large amount of tissues around the cut edges is to be recommended—it is exactly the opposite.* Indeed we have not to deal with inorganic matter, we have to deal with living tissues, which have to *adhere permanently and will do so only if organic union is formed between them.* So that the *union* of the cut edges of the stomach and of the jejunum *effected by surgical means, must be only, always and nothing but the best obtainable preparatory step to the formation of organic union by the patient's natural physiological resources.*

The value of any means employed in performing the anastomosis between stomach and jejunum must therefore be estimated by studying the anastomosis itself at different periods, from the very first moment up to several months after its performance. So in our study of the means employed in performing the anastomosis, we can group together the first three periods, because it is evident that they represent different stages of a process of repair which should culminate in the final stage, when the stomach and the jejunum are held firmly together, by organic union.

Resistance of the anastomosis during the first three periods; The study of the resistance of the union between the cut edges of the stomach and of the jejunum has been done in the following manner: the stomach and the jejunum were removed either immediately or at different intervals after the gasto-enterostomy had been performed, the end of the jejunum was closed with strong clamps while the cardias was tied on a metal tube connected with a special apparatus containing water, (Fig. 38). Water was pressed into the stomach until it would leak out; the moment it began to leak out, was accurately noted and the resistance of the union was indicated by the amount of pressure that was necessary to obtain leakage. We shall not refer to each single experiment, because it would require a very lengthy report; we shall only relate the general results of each group of experiments.

Examination of resistance immediately after the gastro-enterostomy was performed. In this group we noted some very interesting facts: the degree of resistance of the anastomosis was greater when the anastomosis was made with mechanical means, such as the Murphy button, without the help of any suture external to the button or with three or four rows of *very tight* sutures; decreased when three rows of sutures were applied as they are in good routine surgery; decreased proportionately when two or only one row of sutures were applied. Little differences of no appreciable importance in the resistance of the anastomosis were noticed between cases where separate stitches or continuous sutures were used. The elements that insured against leakage were the tightness of the union of the cut edges and the amount of tissues united. When mechanical means or three or four rows of tight sutures were used, often the stomach or the intestine would not leak along the line of anastomosis, but would burst at some other point. When one or two rows of suture were used, leakage would occur when sutures were not taut and occurred specially at the angles. We have to state however, that when the sutures were properly made, leakage could only be obtained with such a pressure that was far superior to any pressure that could exist in the abdomen during life. Leakage however would occur with little pressure if the sutures were rather loose, especially when separate stitches were employed and when the cut edges had been damaged by tears caused by needles, thread, etc. Commenting on the results, we can state that any tight suture or tight mechanical device will prevent immediate leakage at the line of anastomosis, the mechanical devices being the ones that give the strongest immediate union, because the cut edges have not been weakened by puncturing them with needles and thread, as, they necessarily are, when sutures are used, and we can conclude that during the first period, the anastomosis between the stomach and the jejunum, as far as immediate leakage is concerned, is subjected to same rules that would make leakage-proof any tube, bag, etc. composed of inorganic matter that had been joined with another tube, bag, etc.

Resistance of the anastomosis at different intervals after gastro-enterostomy has been performed: Already twenty-four hours after its performance, the examination of the anastomosis shows how important is the biological factor in favoring the union between the stomach and the jejunum. In fact already only twenty-four hours after the gastro-enterostomy has been performed, the union is much weaker than immediately after its performance and it is progressively weaker when mechanical devices, three or four rows of tight sutures have been used, than when only two rows of sutures have been employed. In fact after twenty-four hours the anastomosis belongs already to the second period referred to above, that is, the cut edges are held together by the combined power of the sutures or mechanical devices and the exudate formed on the serosas. The more tightly the cut edges were approximated, the more their vitality has been impaired and as obviously the exudate had not time to organize yet, the tighter the union made by the sutures or mechanical devices, the weaker is the anastomosis twenty-four or more hours after it has been performed. This weakness increases progressively until the third period is reached, when the tissues included in the sutures or in the mechanical devices begin to slough off and the cut edges are held together only by the exudate that has formed on the serosas. According to the means employed, the passage between the first, second and third period is more or less rapid and the value of the means employed by the surgeon *is to be gauged by the slowness of the passage from one period to the other, because it is evident that the longer the means employed by the surgeon holds the cut edges together, the more probabilities there will be for the formation of a strong or-*



Figs. 32, 33, 34. Schematic view of correct and incorrect manner of suturing the stomach and the intestine. 32-33 show sero-serous sutures ruffling the tissues and blocking the blood supply, while 33 shows how smooth are the tissues after the special suture is applied and how free is the blood supply; note that if perfect union without adhesions is desired, union should take place only between the tissues found between the through-and-through and the sero-serous suture: to obtain this ideal result the sero-serous suture should allow a perfect blood supply and approximate closely the serosas. This is obtained by following the technique indicated in Fig. 33; note also in Fig. 34 knot put at the angle of the incision, which will make the angle itself a very weak point from which leakage is most likely to occur.

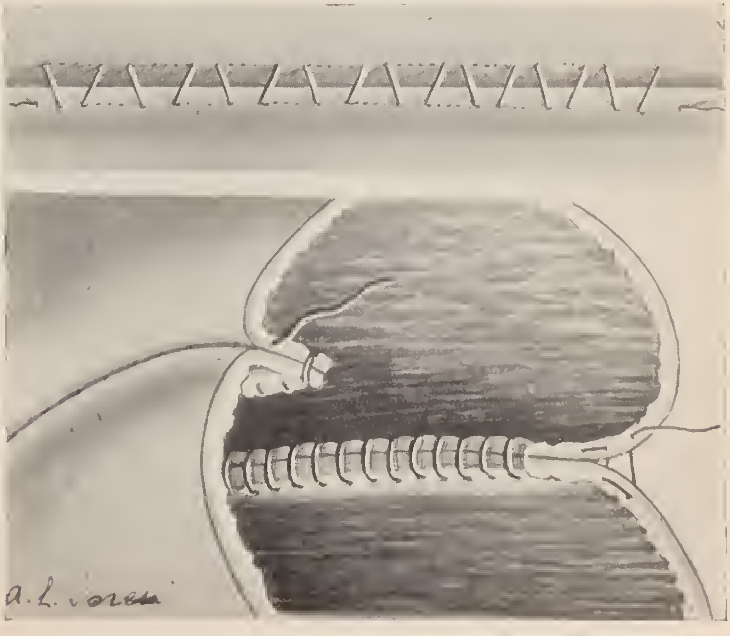


Fig. 33. Sero-serous suture. Correct method of suturing.

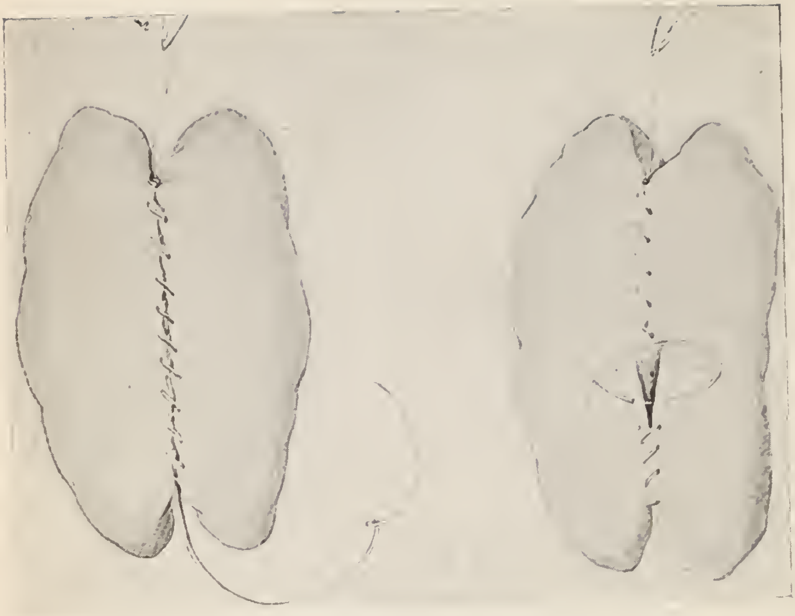


Fig. 34. From Moynihan's abdominal operations.

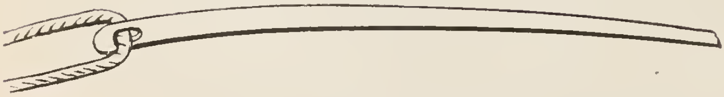


Fig. 35. The illustration shows how thread will traumatize and tear the tissues when the needle is smaller than the double thread passed through its eye.

ganic union, the formation of which, we repeat, must be the aim of and be favored by, the means that the surgeon employs in performing the anastomosis. The anastomosis is always weaker from the third or fourth day up to the tenth—this is the reason why we recommended extreme attention in feeding and purging the patient during this period.

Value of Mechanical Devices and Different Sutures: We can now see the relative value of each means employed by surgeons—mechanical devices cannot be controlled so perfectly that the compression they exercise on the tissues might not make the tissues themselves slough off before organic union has taken place, so favoring leakage and hemorrhage; the only advantage they had was that gastro-enterostomy could be performed more rapidly when certain mechanical devices were used in performing the anastomosis, than when sutures were employed. We now can make a perfect anastomosis with two rows of sutures as rapidly as with the best mechanical device, so that having lost even this advantage of speed, we believe that the many objectionable features of mechanical devices, familiar to all good surgeons, make their use obsolete.

How many rows of sutures are to be recommended, and what kind of sutures? In a great number of experiments we found that the sutures after twenty-four hours or more had constantly some weaker points, no matter what kind of suture was supplied. These points revealed themselves to be the weakest along the suture line, because under water pressure there would be more or less extensive separation of tissues that would allow the exit of water: *these points were constantly located at the angles or where knots were found.* The reasons for this constant occurrence are easily understood: the angles are more traumatized than any other point of the suture line and generally the tissues around the angles are not approximated as well as the other portions of the cut edges: *knots prevent the tissues (serosa) from coming into direct immediate contact,* (*Fig.* 40) so that the tissues surrounding the knots cannot adhere until the knots have been absorbed or incorporated in the connective tissue that forms around the same, which obviously take several days to form; contrary to the general belief, we found that when separate stitches were used, we obtained the weakest union, and this weakness was more remarkable twenty-four, forty-eight hours or at any time later after the performance of gastro-enterostomy. This is easily explained if we think that all along the suture lines, we had as many weak points where the serosas were not in close contact, as there were knots made to tie each separate stitch. Forty-eight hours or longer after gastro-enterostomy was performed, the anastomosis was proportionately stronger, the better, closer and more evenly the tissues interested in the sutures were approximated, with a minimum of tension, preserving as well as possible their blood supply, and finally with the least possible trauma; we found that the strongest union forty-eight or more hours after the anastomosis was performed was obtained with the two rows of sutures that would approximate closely and evenly without tension about 3 or 4 mm. of serosa between them: the strength of the union was influenced also to a great extent by the manner in which the inner or through-and-through suture was made. If the mucosa of the stomach and of the jejunum were evenly and closely approximated without undue tension, so that there was no pocketing or ruffling of the mucosa where septic material or blood could collect and the suture was made in such a manner, as to approximate evenly and closely the mucosas and the serosas, the union was far stronger than when any of these points were neglected. We also found that an element helping the strength of the anastomosis was the gentle handling of the cut edges of the stomach and of the jejunum.

Perfect approximation of the cut edges: What is then to be considered a perfect manner of approximating the cut edges of the stomach and of the jejunum? The approximation must first prevent hemorrhage; if there is a too rapid sloughing of the cut edges, there is danger of hemorrhage, so that the means employed must securely close the blood vessels until organization of the blood clot that has formed into them has occurred—this, we believe is accomplished to perfection in our technique where the large blood vessels of the stomach are each tied separately and the smaller vessels of the stomach and jejunum are secured with the through-and-through suture, which includes the submucosa where the blood vessels are located.

Besides securing hemostasis, and preventing immediate leakage, the means employed by the surgeon in performing the anastomosis must favor a perfect early organic union. Organic union commences to be organized immediately after the anastomosis is made, and therefore it is important that the means employed by the surgeons should favor immediately the organic process. Let us remember that the process of organic union between the cut edges of the stomach and the jejunum is a double one: in the inside of these viscera, there is going on a process of healing by granulation all along the cut edges; around the area of granulation there is an exudate that makes the serosas adhere and which prevents leakage of the secretions formed on the cut edges and of the contents of the stomach and the jejunum, so that we have the following condition: on and around the cut edges in the inside of the viscera there are some secretions that would leak out if the exudate formed on the serosas all around should not prevent this leakage: if the secretions are reduced to a minimum, and the exudate is evenly distributed all around the cut edges and rapidly organized, we will have obtained the ideal conditions that will prevent leakage and favor the formation of the ideal organic anastomosis. We also have to remember that all tissues heal by the formation of new connective tissue, which is very abundant at the beginning of the healing process and is also rapidly absorbed, reducing itself to the minimum indispensable to effect the union of the injured tissues. The new connective tissues formed around the cut edges of the stomach and of the jejunum results from the process of healing of the cut edges that are inside of the viscera which is a second intention process, and from the organization of the exudate on the serosas. As an ideal anastomosis must unite the stomach and the jejunum with the minimum of scar tissue indispensable to effect such a union, the means employed by the surgeon must anastomose these viscera in such a manner that while it prevents hemorrhage and is leakage proof, limits the irritation to the cut edges to such an area, as it is indispensable to obtain the union. This point is of enormous importance, because if the close approximation of the cut edges favors the healing by second intention of the same, and the irritation of the serosa favors the formation and later the organization of the exudate that will seal the cut edges, *an excessive and irregular approximation of the cut edges will result in the formation of excessive and irregular scar tissue into the lumen of the viscera, and an uneven and exaggerated irritation of the serosa will also result in an uneven and super-abun-*

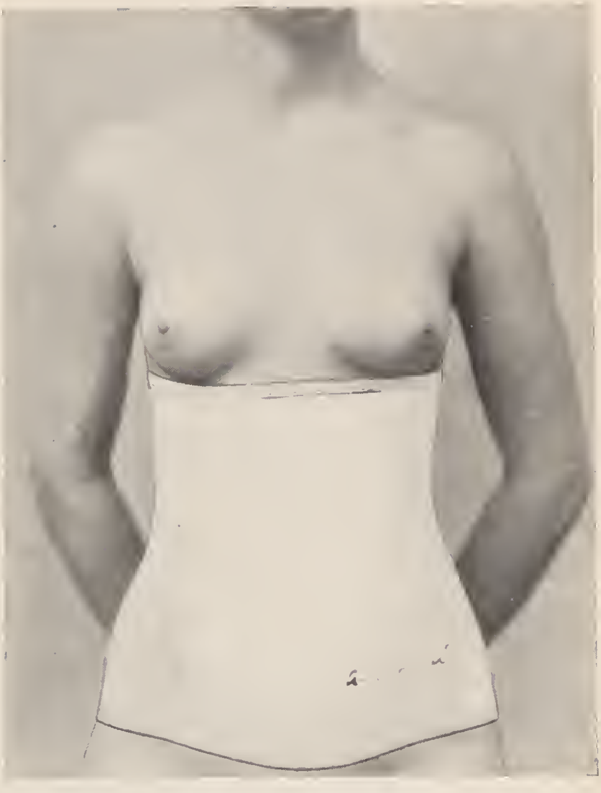
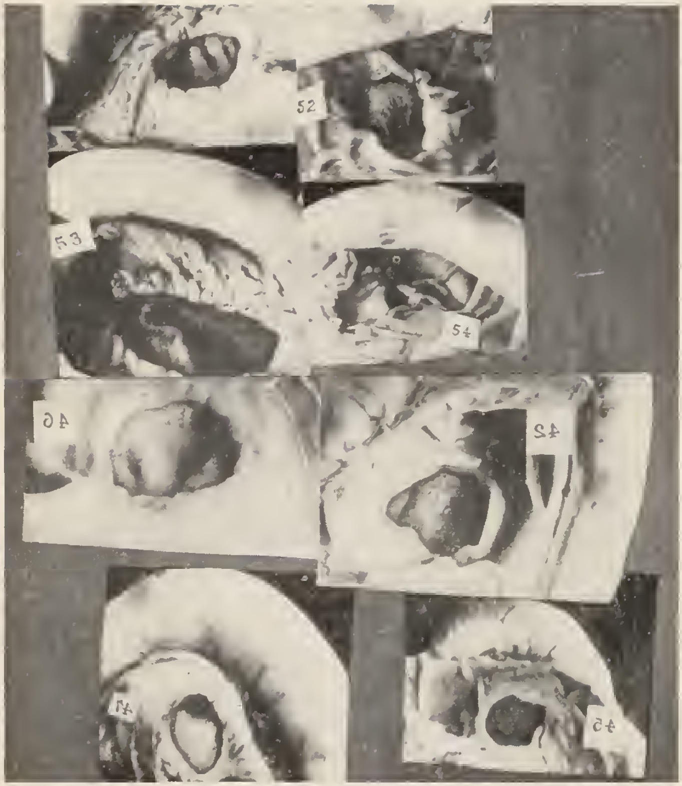


Fig. 36. Abdominal elastic belt in place; any elastic belt is good; the best ones are those without any bones or any other more or less stiff appliance sewn into the belt.



Illustrations show eight roundish openings in eight cases of gastro-enterostomy, where the anastomosis was made rectangular, square, round, oval; each anastomosis made different from the other, but all resulted in a roundish opening notwithstanding different original shapes.

dant production of exudate, that will later organize and form scar tissue: the result will be that the excessive amount of scar tissue in the lumen of the viscera will favor stenosis of the anastomatic opening and probably the formation of secondary ulcers; the super-abundant and uneven formation of the exudate on the serosas will end in the formation of abnormal adhesions; so that we have to suture the cut edges in such a manner that the inner suture is hemostatic and traumatizes as little as possible the same cut edges and includes only the amount of cut edges that is necessary to obtain union: the sero-serous suture must irritate the serosas as little as possible and approximate them closely, while the blood supply to the cut edges is preserved. It is easily understood that tying the large blood vessels of stomach and suturing the cut edges with fine catgut, interesting only two m. m. of the cut edges themselves going through the three coats of both viscera and putting the stitches very close to each other, is sufficient to control hemorrhage, to firmly approximate the cut edges evenly and regularly and start an irritation of the serosas, (irritation caused by the passing of the needle and thread, the infection carried by them and the compression exercised by the suture itself), sufficient for the production of the exudate that will seal definitely the line of the anastomosis. The approximation of the serosas all around the cut edges must be complete and even. What are the factors that in the techniques generally used prevent such ideal approximation, as we know should be obtained in all cases? We have seen that knots and thread prevent the immediate contact of the serosas, and it is necessary to mention that knots and thread might be, and actually are, dangerous, because they act as setons that carry the secretions formed on the cut edges or the liquids found inside of the viscera beyond the sero-serous suture and so favor leakage of the same into the abdominal cavity, when other factors contribute to render more difficult or slow the adhesion of the cut edges. Beside knots and threads, any liquid that could form or collect between the cut edges will prevent the immediate contact of the serosas; so any ruffling of the cut edges forms pockets where pus, blood, or any liquid can collect and keep the serosas apart; hematomata about the cut edges have the same effects. The angles are generally the weakest points of the anastomosis. The sero-serous suture must appropriate closely the serosas but without interfering with the blood supply to the cut edges, which obviously comes from the surrounding tissues, which must therefore not be traumatized. Let us examine our manner of performing the anastomosis, and see if it is as ideal as we claimed it to be: we do not use clamps which irritate the serosas or piercing instruments which tear the serosa necessitating repair of the same, which repair results in the formation of abnormal adhesions. Our inner suture approximates closely and evenly two m. m. of the cut edges, closely because the suture is kept taut and the stitches are put very close, one to the other: evenly, because all the cut edges are sewn with the same stitch carried all around: each stitch, whether at the angles or anywhere else, is put in plain view and the close approximation of the cut edges is controlled by the direct sight at each stitch, and such control is easy if using black catgut, which shows itself between the cut edges if these edges are not closely and properly approximated. Our suture not only approximates the cut edges, but inverts the serosas of the stomach and the jejunum, so that when the suture is completed the mucosa of the stomach is in close contact with the mucosa of the jejunum, and the serosas of the two viscera are so closely and evenly brought together, that they appear to have been glued and not sewn. *We insist on the importance of using black catgut No.* 1 *because thread is seen between the cut edges if the thread is black, much better than the ordinary silk or catgut of neutral color, which are easily confused with the tissues which are of about the same color catgut* No. 1 is used because it is sufficiently strong and lasts a sufficiently long time to insure adhesion of the cut edges and there is no use of employing coarser catgut which would naturally cause more trauma to the cut edges. Our suture is carried all around the cut edges without any turn or change of direction or knot, because we believe that turns, changes of direction, knots, tend to complicate and render less effective the suture which can be accomplished as simply as we have stated, because the cut edges represent a circular structure, so that the stitch commenced at any one point can be carried all around the circular structure without turns, changes of direction, or knots by two needles. Our suture has only one knot which is absolutely indispensable, and even this one single knot, is so well inverted by using the cross stitch shown before (Fig.) that the line of union is practically not weakened by its presence. We want to call your attention to the cooperation if such word may be used, between our through-and-through, and our sero-serous suture in favoring organic union. Our through-and-through suture seals completely the cut edges and approximates so closely the serosas that they appear glued together, so favoring the formation of exudation all around the cut edges; the sero-serous suture approximates closely about 3 m. m. of serosa beyond the serosa approximated by the through-and-through suture; you see easily that this arrangement insures a strong barrier against leakage and favors the rapid formation of organic union, as no other arrangement could. Indeed our sero-serous suture does really approximate closely the serosas at an even distance from the cut edges, but does allow a complete freedom to the blood vessels that carry the blood to the very cut edge, because our suture does not compress the tissues, or cut them, no matter how taut it is, and if limited to the muscularis, does not interfere with the underlying blood vessels running in the submucosa. This arrangement makes the method of anastomosing the stomach and the jejunum almost mathematically safe in all cases, because the anastomosis passes through the four stages mentioned above so slowly, that the sero-serous suture is still holding the tissues together when strong organic union has formed, because this suture is away from the cut edges that will slough off, and does not interfere with the blood supply of the tissues beyond and will remain in place holding the tissues together until absorbed. For this purpose silk might seem preferable, but we prefer catgut, because if any stitch should penetrate the mucosa, if silk is used, it would favor the formation of secondary ulcer and the continuous presence of the silk in the serosa causes constant irritation of the same, favoring the formation of abundant scar tissue: while catgut, which lasts a sufficiently long time to insure organic union, is finally absorbed, and its absorption prevents all possible complications. In applying this suture we also use one single thread, which is tied with one single knot, knot that is also well buried between the serosas far from the knot of the through-and-through suture, so as to render practically *nil* the danger that might come from the presence of the knots.

We beg to be allowed to state that the over-and-over suture, such as shown in Moynihan's book on Abdominal Operations is to be deprecated, because if taut, it does strangle the tissues included in it and therefore impairs the blood supply of the cut edges, and if loose does not approximate closely the serosas and in both cases ruffles the tissues forming pockets, into which liquids can collect: compare the appearance of tissues sutured by our suture and the over-and-over suture, Fig. and we believe there is no need of further demonstrating the superiority of the suture we recommend: we do not insist on demonstrating the inferiority of separate stitches which has been made evident elsewhere. The suture we recommend might appear to be the same as the Cushing's suture; it differs from it, because it is made with two needles; there is only one knot, the stitches are put very close to each other and each stitch takes a bite close to the last stitch as shown in Fig. 9. By this arrangement it is seen that the serosas are really closely approximated. We also call your attention to the fact that the importance of employing the very best sutures which interfere with the blood supply of the cut edges as little as possible is not a theoretical idea, but it is of the most practical importance when gastro-enterostomy is performed on patients whose blood vessels are rendered less elastic or altered in any way by old age or disease, on anemic patients whose blood is poorer in the elements that are essential in making possible the organic union of the cut edges: on patients suffering from cancer of the stomach, in whom the tissues perhaps for both the reasons mentioned above, do not adhere as well as when cancer is not present: in all these cases leakage can be prevented obviously better by favoring early organic union of the cut edges of the stomach and of the jejunum, which organic union will be better and stronger, the better the blood supply of the cut edges: these considerations emphasize the importance we attach to perfect suturing in gastro-enterostomy. To emphasize the practical importance of applying the best suture in all cases, we shall refer to one case in which the suture we recommend has been put through the most severe test. While serving in the Italian army, I was sent as surgeon to the hospital of the Island of Rhodes. While there, I performed a gastro-enterostomy on a man about forty-five years of age. On the third day this man ate an enormous quantity of peanuts and drank two large bottles of water—naturally he was seized with the most intense pain, rolled on the bed and the floor, until finally was made to vomit very coarsely by an attendant who introduced his finger into the patient's mouth. Later, I washed his stomach and extracted more water and peanuts. Notwithstanding all this, the patient made a very good recovery except for the external wound which healed by second intention, because the patient had torn the dressing and scratched the wound itself so badly that additional stitches had to be used to repair the damage. This test shows clearly that the anastomosis made with the method we have described is strong enough to stand practically all the strain that can be put on it.

Prevention of Secondary Ulcers: Notwithstanding the fact that the real pathogenesis of secondary or peptic ulcer is not yet positively established, we believe we are in the right, when we state, as we did in a paper published in the *Annals of Surgery*, that unabsorbable thread might be the cause of secondary ulcer in a number of cases, so we use catgut instead of silk and we recommend plain black catgut instead of chromic catgut, because chromic catgut sometimes is absorbed only after a very long time. Other factors favoring secondary ulcers are trauma to the cut edges and large amount of scar tissue on the same: trauma is minimized by using fine catgut and large needles, in fact generally, surgeons use needles which are smaller than the thread doubled on itself at the eye of the needle so that in order to pull the thread through the tissues, the tissues are lacerated: the remedy is to use a large, round needle: large amount of scar tissues on the cut edges will not form if the cut edges are closely approximated, accurately sutured together, little traumatized and their blood supply is preserved.

The comfort of the patient after the operation is improved, if instead of closing the abdomen with the ordinary stitches, it is closed with the elastic method described by the Author in another paper*, and if instead of the ordinary dressing the abdomen is taken care of by simply covering the wound with gauze and apply around the abdomen an elastic belt, without any bones, as shown in Fig. In urgent cases we advice to close the abdomen with wires and elastic bands as described in another paper*, We feel that the technique described fulfills all the desiderata for a safe, rapid and perfectly executed gastro-enterostomy, that will not cause any disappointment either to the patient or to the surgeon.

DISCUSSION.

Dr. J. T. Pilcher:

"I hesitate very much in attempting to discuss a subject with which I feel that nearly every one present is more practically familiar with than I am myself, but what I say may perhaps be an introduction to that which may be added hereafter.

"I began my work in gastro-enterostomy when, as yet, such attempts had been confined to the anterior surface of the stomach; the work of Wölfer had but recently been announced, and it was a novelty to us all. In the anterior gastro-enterostomy, which we were attempting, the great question was how to prevent the all too frequent, persistent and obstinate vomiting which followed it. The vicious circle was the problem which the surgeon had to contend with and which in too many cases brought disaster to his efforts.

"A few years later, when more especially through the work of our own American surgeons, especially those of Rochester, there was demonstrated the feasibility and the value of the posterior approach to the stomach—the posterior anastomosis—and from that day to the present, with but rare exceptions, we have been practicing posterior gastro-enterostomy.

"It had seemed to me that now, after all these years, and after the immense experience which surgeons have had with this surgical procedure, that it has technically been pretty well standardized, and it is really of more than usual interest that the views which have been expressed by the author of the paper this evening come to us and awaken us to thoughts that perhaps, after all, there may be something said about a different method of procedure.

"What we should do and how we should do it, however, must depend very largely upon our own particular experience, and it is the experience gained, not in the surgical laboratory, nor in the dissecting room, but in the operating room and in the after-history of our patients that must determine our conclusions.

"Besides that question of the vicious circle there have been involved three important elements in our work, first, of sepsis, and, second, of hemorrhage, and, third, of the permanence and reliability of the union that has been effected. Sepsis we know how to avoid. If it occurs, it is a surgical calamity. Sometimes it is unavoidable, but in a great majority of cases we can control it and we do control it. That is not under consideration tonight. Hemorrhage—many of the deaths after gastro-enterostomy have been due to the gradual oozing of blood into the stomach in sufficient quantity to turn the scale in a weakened patient, and life has gradually flickered out as the result.

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* New York Medical Journal November 8th, 1919. A. L. Soresi. Elastic closure and systematic paraffin gravity drainage for clean and infected wounds.

* Annals of Surgery January, 1920. A. L. Soresi. The rapid closure of the abdomen.

"For the prevention of this we have had presented to us by the author the idea of exposing and identifying the larger venules in the stomach wall and of applying a ligature to them in the early part of the operation. It is feasible. It will do the work at least of preventing hemorrhage from those particular vessels. It will take time, and time is an important and valuable element in many of these cases.

"I am inclined to think that the general experience, however, of tens of thousands of instances in which it has not been resorted to, and when other methods are carefully applied, that it is unnecessary, and I will state that, as the result of my own observations, that hemorrhage can be prevented, and that we do not prevent it in the methods which are usually employed by us in the application of the sutures, so that I should hardly be willing to accept the recommendation of the author in this particular point of his technique.

"The next important point as his methods were developed for us, was the avoidance of the use of clamps. The first operation which I had to do with and which I had seen done by my colleagues, were done in that way—without the use of clamps. I remember how great an interest was attached to the demonstration given by Mayo-Robson of his method of doing it over a vegetable spool, which he introduced for the purpose, first threading the stomach upon one end of the spool and the jejunum upon the other end of the spool, and in that way giving a fixed basis over which he could work and apply the suture. That was the next step, and then the third step was the introduction of the method of holding the parts by a clamp, or clamps, so that systematically and readily we could proceed with the application of the sutures. It has become universal, I think. To this more than to anything else has been due the general ability of the ordinary surgeon to perform this operation, and to perform it successfully. By the clamp the parts are held in such a quiet and undisturbed condition, and such a sense of security in manipulations is provided that the regular progress of the suture is very greatly facilitated.

"Now, do we need any outside apparatus to give us this help? If we were working simply upon a dead body, possibly we would not need it, but with the living human being, with the constant possibilities of movement, with the knowledge of the existance of contaminating fluids in the two portions of the viscus, which are ever present to us and which we desire to keep from flooding the field of operation, it is a very great help, and is it not true that the common experience, that the universal experience of the last fifteen or twenty years has been that it does not bring to us any advantages sufficiently great to cause us to dispense with the great advantage which it does bring to us? It may bruise the tissue a little more, make a little more traction than would otherwise be made, although I doubt it.

"At all events, it seems to me that practically it has been demonstrated by a most extraordinary amount of evidence that the use of the clamp is of very great advantage in facilitating the operation of gastro-enterosatomy, and I should be very loath to deprive myself of it.

Dr. R. S. Fowler:

"I was very much pleased when Dr. Pilcher opened the discussion and said what he did in regard to clamps because he voiced my sentiments and relieved me from discussing that portion of the paper.

"In regard to the use of the stomach tube: I suppose some of us have had a stomach tube passed. I know I have had a stomach tube passed on me and would have four gastro-enterostomies performed on me than have one stomach tube passed.

"It is perfectly marvelous in considering the doctor's paper, the amount of work that he has done on this subject (original work, I mean) and presenting something that is apparently new, but is it new? The one point which I find in his technique which is new is the ligation of the stomach vessels, but the suture which he describes, the first suture, as going in and out and lying concealed between the peritoneal surfaces, was the original suture which was used some twenty or twenty-five years ago for such work. It was placed at a distance from the stomach and jejunal openings for the very purpose for which the doctor places it, namely, to ensure broad peritoneal approximation. The over-and-over suture which is employed by him, taking in all the coats, is more destructive than the through-and-through suture of the Connell type, and does not give any better approximation. If anything, the angles are harder to close with an over-and-over suture than with the Connell type of suture.

"The original operation was done by us all many years ago. The immature operations of gastro-enterostomy, for instance, when we used to use the potato bobbin and the assistant had to hold the stomach up to keep the contents from rubbing out, taking forty-five minutes to complete the operation, the assistant's hands becoming very stiff, were followed by good results.

"It seems to me that the results obtained after gastro-enterostomy depend not so much upon the technique which is used, always providing a fairly clean technique is used, free from too much manipulation, as upon the condition for which the operation is done. In gastro-enterostomy in duodenal ulcer for example, even of the advanced type, where we don't often see a marked atony of the stomach, the opening should be placed near the pylorus. These stomachs do not empty themselves entirely through the gastro-enterostomy. Gastro-enterostomy is not a drainage operation in such cases. The good results are to be ascribed to the alkalinization of the stomach contents by the duodenial fluid more than to actually overcome the stomach stasis.

"The doctor, I believe, used the elevated head and trunk position after his operations. That has resulted in this type of cases, of operation in the upper abdomen in lessening the post-operative complication of pneumonia very markedly.

"The usual location of the jejunum was spoken of. The usual position of the jejunum is to the left of the verebral column and ascending toward the lower pole of the left kidney. The operation of gastro-jejunostomy must displace, must pull upon its first portion at its duodeno-jejunal angle and must leave it in an unnatural position.

Dr. J. T. Pilcher:

"It has been extremely instructive to have heard the able exposition of the procedure of gastro-enterostomy as presented by Dr. Soresi, and we must certainly appreciate the careful working out of his most excellent technique. May I be permitted, however, to point out a few things which seem to have been omitted, probably unintentionally, and to take issue with some statements which are at variance with my own personal experience in a somewhat extensive series of cases. Certainly one must in criticizing another man's work be constructive as well, and certain operative measures which experience has shown to be of unquestioned value must have a more definite basis for their being discredited than are indicated by the speaker's contentions. Primarily, it is of the utmost importance to at least wash out all residue in the stomach, previous to operation, particularly in those cases presenting stenosis, as in them there is invariably present a profuse bacterial flora, and any soiling of the wound particularly in instances of achylia, will predispose to infection, while on the other hand ulcer concomitant with hyperchlorhydria the contents are practically innocuous. The question of making the patients accustom themselves to the passage of the stomach tube is a good one, and as a rule in these stomach cases, this has already been accomplished through the gastro-enterologist. We have never experienced particular difficulty in this regard, and it has been remarkable how little vomiting and gaseous distention there has occurred after the properly functioning gastro-enterostomy has been performed. The examination of the abdominal contents before proceeding to the performance of the gastro-enterostomy should include an exploration of the gall bladder and appendix, and an examination as to the extent of the pathologic processes present in the stomach or duodenum. Posterior ulcers frequently do not show any anterior pathology, therefore the hand must be introduced and thorough exploration made before the operator can determine what type of procedure he may wish to institute. Similarly the introduction of the posterior suture or thread should not be advised, but a few interrupted Chinese silk twist sutures may be introduced to strengthen the coating line of number 1 gut suture. I think advantage will be gained by suturing posterior part of the rent in the mesocolon to the stomach as the first step in the operation, when occlusion of this space can be made safely and accurately, which is not always simple of accomplishment later.

The main feature of the procedure as outlined by the speaker, is that no clamps should be used. If the stomach can be freely mobilized and brought well out of the abdomen, this is undoubtedly an ideal way of handling the tissues; however one cannot anticipate this facility, and we have found that in many instances clamps were of the utmost aid, and as pointed out, much difficulty will be found in having surgeons generally discard this mechanical assistance, when so many thousands of cases have been satisfactorily treated by means of it. We wish to emphasize further that the final sero-serous suture knot should by preference be tied in the middle of the anterior surface, and not at the ends, as it is almost invariably here that the leakage occurs, due probably to the imperfect apposition of the tissues, and incorrect placing of sutures and knots in turning the corner We feel that reinforcement of the anterior suture line with a few interrupted silk sutures to be of advantage in taking the strain off of the running Connell suture employed in the method so well presented by Dr. Soresi. It is not noted whether the posterior row of through-and-through suture is locked or not. We feel that this accomplishes a definite result in not only occluding the blood vessels more securely, as it is from this point that most of the post-operative hemorrhages come, but also in tending to prevent unnecessary puckering, particularly if clamps are not used.

The point made relative to the position of the gastro-enterostomy opening being at the situation of greatest dependency of the fundus is well taken, and is one of the reasons that many gastro-enterostomies placed as heretofore taught as near the pylorus as possible, have been useless from the very beginning. Indeed at present it is a moot question whether it is not advisable, even in cases of contracted stomachs, to place the stoma away from the pyloric antrum, rather than as close to it as possible. The position of the incision in the stomach being as near the anterior wall as convenient is concurred in, but the author's statement that the incision into the jejunum should be at the top, or equal distances from the mesenteric attachment is we feel not anatomically and practically justified. Experimental work and injection of the arterioles of this area, show that the best results may be anticipated by making the incision ¼ to ½" down on the upper side of the jejunum in which position one gets the full blood supply from the anterior surface of the mesenteric vessels, and on the other side benefits from the collateral circulation. Incision at the top of the jejunum as advised by Dr. Soresi is the weakest point in the intestinal blood supply, the vessels being practically terminal in this situation. The results of this point in technique have been most satisfactory.

Relative to the size of the stoma being suggested as that of the jejunum into which it is made; this is not mechanically correct, as the jejunum will hold a bolus of food much larger than the gastro-enterostomy opening, which it must be appreciated is relatively non-elastic and liable to become infiltrated with fibrous tissue. Certainly one is not justified in empirically allowing but 1 c. m. for the contraction of tissue, therefore the opening should be decidedly larger than the diameter of the jejunum, as practically it does not seem that its size has any direct relation to the amounts discharged through it, nor to the rapidity of this discharge. This is determined by the tonus and rapidity of contraction along the lesser curvature, as has been so definitely shown by Cannon. Similarly also we feel that the simile of the funnel action in the stomach is pouring fluid through the gastro-enterostomy opening cannot be applied to the mechanics of the stoma, when one appreciates the physiology and dynamics of the tissues of the viscus involved. Emphasis should be drawn again, as has been done in the paper regarding the danger of leakage at th eangles, which is invariably increased if any knots are placed here . The results of the hydraulic experimentation have been most instructive relative to the degrees of tension necessary to effect this leakage. We agree that trimming of the mucosa is entirely unnecessary although not harmful. This was done in fifty cases where I wished to obtain specimens of the stomach mucosa in order to compare the histology present in the glands with the known pre-operative analysis of the stomach contents. There were no untoward sequelae in any of the cases. We must take objection to the statement that there is an irregularity of the healing process of the cut edges of mucosa, due to the irregular suture bites, or excised strips, causing them to become ragged. It is difficult to understand the reparative processes intimated as being present by the speaker in the edges of the cut mucosa, as it is mechanically obvious that all tissue internal to the occlusive line of suture is devitalized by cutting off its blood supply by the suture, of necessity, and will slough off and be digested leaving the smooth line backed by the sub-mucosa and muscularis over which line the healing will take place.

The agglutination of the serous surfaces if properly approximated is almost immediate, and we have felt after a moderate practical experience that the more surface evenly opposed, the greater insurance obtained of protective strength to the occlusive suture line itself. These statements are based on microscopic studies of some twenty resected and bisected anastomoses in dogs, at varying intervals from two hours to six days post-operative.

Dr. Charles H. Goodrich:

"I feel that it would be unfair to complete a discussion of this subject without commending and applauding the reader of the paper upon the emphasis which he placed upon the importance of minimizing the trauma to the tissues covered by peritoneum, in other words, minimizing the trauma to serosa. I believe that in all of our abdominal procedures and especially those near the diaphragm this is of special importance, and I think that sometimes upon this trauma may depend infections that travel upward by way of the lymphatic channels which perforate the diaphragm.

"In attempting to measure the value of any technical procedure in gastro-enterostomy there are a number of questions that naturally would be asked, such as Does it admit of aseptic surgery? Does it minimize or reduce to a lowest practical minimum the possibilities of primary and secondary hemorrhage? Does it provide an adequate opening and a permanent opening, and are we assured of a minimum amount of scar tissue? Are we provided by it with a reasonable insurance against gastro-jejunal ulcer? Does it insure us against leakage? I believe that Dr. Soresi has sought to demonstrate to us that his method answers these questions favorably.

"As regards his wound, I believe that the large abdominal opening is in favor with most of us.

"In regard to his method of opening the peritoneum, that has been a method used by myself exactly as he has described it, for a number of years and with great satisfaction.

"It seems to me that when we consider his procedure from the standpoint of anatomical and physiological advantage, it must appeal to us to a certain extent because of the very points that he has emphasized.

"Unquestionably with such a procedure scar tissue should be minimized. Unquestionably we do get accurate coaptation. Nevertheless, I must say, that I have always used clamps with great satisfaction, in doing a gastro-enterostomy and have no cases on record, as far as I know, where there has been any leakage or any extensive trouble due to the inflammatory exudate formed around the opening. In other words, as Dr. Pilcher and and Dr. Fowler have both said, the practical results in general, that we are obtaining with gastro-enterostomy by the clamp method are fairly good on the average and, in the main, most excellent.

"One of the important questions that we must consider is the permanency of the openings. That has seemed to depend in many instances not so much on the size of the opening (although I will admit I have been given to making large openings in both stomach and jejunum), as it does on the patency of the pylorus, for if the pylorus remains patent, it has been many times demonstrated that a definite, and sometimes large, percentage of the stomach contents will pass that way in spite of the gastro-enterostomy opening.

"It has been my privilege to observe a number of gastro-enterostomy openings made by us in our work at the Methodist-Episcopal Hospital several years afterwards, and in each instance they have been patent at the time of the x-ray examination.

"What are the remote results and the results in cases one year afterwards? I refer to the case performed for either duodenal ulcers, or pyloric ulcers, or gastric ulcers. It seems to me that we are only beginning the treatment of these cases when we perform gastro-enterostomy and a good deal of the remote result depends on how the case is treated dietetically and hygienically afterwards. In the cases that I have been able to observe under the proper regime after gastro-enterostomy, the results have invariably been good. There are sometimes gastro-intestinal disturbances the first six months, the first eight months, and sometimes the first year, but they are generally managed by dietetic and hygienic plans of action, and a careful consideration of these points has seemed always able to control such symptoms. Is there any assurance that the adoption of such a method as

Dr. Sorei's would prevent any of those gastrointestinal disturbances that we have all seen in some cases of duodenal or pyloric ulcer when gastroenterostomy has been apparently successfully and satisfactorily done?

"I want to congratulate the doctor on his work. It seems to me that such a method offers to us surgically a practically perfect procedure, but it seems doubtful if all of us can adopt it as our only method, even after his delightful presentation."

Dr. Henry F. Graham:

"I would like to ask the doctor a question. I would like to know if his experiments have definitely proved to him that a sloughing actually does take place at the margins of the anastomosis. I should think, judging by analogy from our skin sutures, that it is not necessary that sloughing should take place. We use mattress sutures and continuous over-and-over sutures on the skin without any contraction or sloughing, and I cannot see why sloughing should take place at the anastomiotic opening.

"There is another reason (and it seems to me it is a very good reason) why the opening should not be made too large in the stomach. As has been said, the emptying is not so good as in the other. It is not a drainage opening. We make a large opening in the atonic stomach and when it becomes filled with fluid, it flattens out and the jejunum is stretched like a ribbon across the opening and acts like a diaphragm to prevent emptying of the atonic stomach, whereas with a smaller opening it would not be stretched so tightly across the opening and would not prevent the egress of food."

Dr. John Linder:

"First, I would like to touch on the question of the importance of the blood-vessel, or hemostatic suture. We have had occasion to use that particular suture in the last five years almost invariably, with absolute results, and have not lost a patient since with hemorrhage, and there has been no vomiting with a large amount of hematemesis.

"A point that I would like to bring out is that if we could possibly do away with the clamp it might be of benefit to us, because I have seen cases where in doing stomach work the mere clamping of the first notch, when the clamp is applied, would result in cracking of the mucous membrane. I have verified that in two or three instances.

"Another point that I would like to bring out is that of the knot proposition. We have used that for the last five years, using two rows of sutures, minimizing the number of knots along the suture-line, and no leakage has occurred, with smoother convalescence of the patients than formerly."

Dr. A. L. Soresi:

Before answering each point brought up in the discussion, allow me to make two broad statements, one about the originality of the procedure that I have presented: the other about the very definite limitations given to the paper, which dealt only and exclusively with the technique of gastroenterostomy and not with its clinical indications. About the originality of the procedure I find myself placed in a peculiar position by the different statements made by Dr. Fowler, and Dr. Goodrich, Dr. Fowler said that I presented something apparently new, and stated that for instance, the placing of the sutures, as described by me tonight was done twenty or so years ago. Dr. Goodrich said "that the procedure is so very different from that used by us all, that it is a little discouraging to discuss it and feel that we are hitting the point at which the reader of the paper is aiming." I do believe that the statement made by Dr. Goodrich, is correct, because the whole technique of gastroenterostomy, as I described it tonight, is the result of long and accurate experimental and clinical work by which each detail was studied independently and in relation to each and all other details by myself, and the technique that I have demonstrated tonight, has never been described by any one, and in my visits to numerous clinics here and abroad; I have never seen it employed by any surgeon, and I might make the statement even stronger by saying that nothing similar to it, has been either described, or have I seen it used by any surgeon. This does not mean, however, that I pretend to absolute originality in every detail, because for instance, clamps were certainly not used by the first surgeons who did perform gastro-enterostomy, and therefore my claim for their discard, could certainly not be considered an original step; but what is, absolutely original is the manner by which I advise to hold out of the abdomen the portion of the stomach and jejunum that are operated upon without the use of clamps, and the considerations why the use of clamps should be discarded, and answering directly to Dr. Fowler, about the sutures that I employ, and which Dr. Fowler states were used twenty years ago, I am absolutely positive that there is no description in the literature of sutures similar to the ones that I have described, and to be specific of sutures by which the stomach and jejunum are united with one row of over and over suture using only one knot, as presented to you tonight and by a sero-serous suture also with one knot, and made in the manner that I have explained. It is possible and probable that some surgeon in performing gastro-enterostomy has adopted some details that are similar, or exactly the same as the ones I have described, and this fact would be very pleasing to me, because it would show that also other surgeons have found that the details I recommended were valuable, just as the catching of the peritoneum which is caught in the same manner that I recommended by Dr. Goodrich. Here I want to state that the technique as a whole is new, and has aimed to render the performance of gastro-enterostomy as technically prefect as it is possible to make it now a day, trying to avoid all the complications that are preventable. I did not enter into any consideration about the indications for gastro-enterostomy, I limited myself to the technical points related to the performance of gastro-enterostomy from the moment the patient is advised to undergo the operation, up to the time that he is to be considered absolutely out of danger on account of the operation itself. The technical points that I wanted to bring out take into consideration the complications that might arise during the performance of, or after gastroenterostomy is performed, on account of some technical error or technical imperfection. These complications are vicious circle, persistent vomiting, internal hernia, occlusion of the intestine, stenosis or occlusion of the new stoma, leakage, hemorrhage, secondary or peptic ulcer, adhesions, failure of emptying or too rapid emptying of the stomach, and pain in the colon. These complications can all be avoided with a technique that takes into consideration the factors that might cause the said complications; and this cannot be only a clinical study, but it must be an experimental study in which each point of the technique is studied separately and all the problems related to it are solved by animal experimentation and confirmed by clinical observations. Surgery I could say, is a compound. One aspect of it is the art of clinical surgery and the other is the science of surgical technique. Clinical surgery depends on the judgment of the individual surgeon; surgical technique can be made practically a mathematical science, because all the problems relating to the execution of each step of the operation can be studied with almost mathematical exactness on animals. The knowledge gained by experiments on animals can then be applied in clinical works by using a certain technique in preference to another technique, this discrimination depending on the exact knowledge that the surgeon has of the results that he can obtain from a given technique and the ability to judge of the results he desires to obtain on the patient, and this is the correct way of looking at the problem of surgery from the standpoint of clinical surgery and surgical technique. At times the surgeon gets wonderful results clinically, although technically the work done by the surgeon himself was very poor; while at other times the surgeon gets bad results clinically, notwithstanding the most splendid and perfect surgical technique. The clinical results depend on so many factors besides surgical technique, that we cannot judge of surgical technique only from the clinical results. Surgical technique has to be studied by itself and clinical results will be better with better surgical technique, but will never be 100 per cent good, even with the most perfect surgical technique. I did not go into lengthy details about all the points because the reading of the whole paper would have taken so long. that probably all of you would have gone to sleep, so I had only to mention the most important points, presenting them as well as it was possible in a reasonable period of time.

Dr. L. S. Pilcher, objected to the time that might be lost in tying the blood-vessels of the stomach, because in urgent cases the time lost might endanger the life of the patient. I will answer that, by saying, that in very urgent cases, the only preoccupation the surgeon must have is to save life, and therefore, as hemorrhage will not occur in every case in which the blood-vessels have not been tied as recommended, the tying of the blood-vessels may be omitted, when the surgeon thinks that the patient's life might depend on the rapidity in performing the gastro-enterestomy more than on any other element; however, we must say that with the tchnique that has been presented here this evening the operation is not a lengthy one, it is exceedingly rapid, because all the possible complications that might delay or hamper the work of the surgeon are prevented, so that he can work in all cases, very rapidly and without any loss of time. I might add that I have my technique in an urgent case and I performed a gastro-enterostomy in less than fifteen minutes; naturally the technique was not as perfect, as I would use in a case where time was not the most important factor in the safety of the patient. In urgent cases it is the duty of the surgeon to save life, no matter what complications might arise afterwards. It was the same thing during the war, when some one complained that in some of my cases there were post-operative hernias. I was awfully glad that 'he patients had post operative hernia, because it meant that they were alive, while if I had wasted time in order to make a perfect closure of the abdominal wound, many of the wounded would have died, because in those cases the question was that of saving the greatest number of wounded by operating as rapidly as was compatible with good surgery the greatest number in the minimum time. "When you have an emergency case you certainly cannot look at the finest points of technique, you have to get in and get out of the abdomen as rapidly as possible, this does not mean, however, that in ordinary surgery you should not adopt all the finest points of technique in order to obtain th every best results. With the technique that I have explained, if the surgeon is helped by a good assistant, he can perform the operation as rapidly as with a Murphy button. The technique recommended is rapid, because it prevents, as I have said, all complications, as for instance, when I recommend the tying the blood-vessels of the abdominal wall before entering the abdomen, I do so because at times the surgeon finding blood in the abdominal cavity, wastes valuable time and traumatizes the tissues uselessly in looking for the bleeder in the abdominal cavity, when the bleeder is in the abdominal wall, so that all the steps that I have recommended are steps that will save time, because the surgeon will never lose time in any case through some complications that do arise, if all the steps I have recommended are not taken. By this I do not mean that these complications will arise in every case, but that either one complication or the other arises in a great number of cases and the surgeon wastes a great deal of time, whereas, if he had prevented the complication, this time would be saved. In regard to the abolition of the clamps: as I stated in my paper, it will be harder to get the surgeon to discard the use of the clamps than it was to get him to accept their use, because he has gotten into the habit of using clamps, and believes that the use of clamps makes the operation safer and more rapid, but I can state positively that if the technique that I have recommended is followed literally, there is no saving of time in using clamps and the operation is much safer by following the technique that I have recommended than it is by using clamps. Indeed leakage from the stomach and duodenum cannot take place if the technique recommended is followed, because the stomach has been emptied by lavage and the jejunum is empty. Moreover, if there is any liquid. this liquid by the force of gravity, will fall to the lowest portion of the viscera and will not come out of the incision made in them, because the point where the incision has been made is very high, and as I said, all the liquid will fall to the bottom of the stomach and jejunum by gravity. The patient might vomit but as I have stated in the paper, by not pulling uselessly the stomach and the jejunum the vomiting will be prevented and vomiting can only occur if the anesthetist, is not administering a proper anesthesia, and would only cause soiling of the operative field, when it occurs during the three or four minutes required to do the through-and-through suture; now I do believe that it is easy to prevent the patient from vomiting during the three or four minutes required to do the through-and-through suture, which is the only time that the stomach and the jejunum are open and leakage can take place. Moreover, if a little secretion should come out of the cut edges, with the packing that has been recommended. this secretion will never cause any trouble. because the abdominal cavity is absolutely protected and the secretion cannot reach it.

"The greatest disadvantage of clamps is that they cause vomiting, post-operative adhesions, favor secondary hemorrhage and in patients with hardened blood-vessels they very often cause hematomata.

"These complications can all be avoided by the use of the suture and the method of holding the viscera out of the abdominal cavity that I have suggested.

"I can also say that the through-and-through suture that I recommend might seem complicated from the description, but if you see it done, you would be convinced that it is the simplest suture imaginable. Not only is it the simplest suture imaginable, but it is very rapidly applied, in the course of three or four minutes, so that really the time that the stomach and jejunum are open is reduced to three or four minutes.

"If you tie the large blood-vessels of the stomach and made the incision in the middle of the jejunum, the bleeding is practically nil, and you can perform the operation very rapidly and cleanly.

"The tying of the blood-vessels of the stomach is not a long or difficult procedure, because if the incision is at first limited to the submucosa, the mucosa and the blood-vessels pop out of the wound and the blood-vessels are easily seen and can be isolated and ligated in a very short space of time.

"In regard to hemostasis. I would ask what makes hemostasis? Permanent hemostasis is only brought about by the organization of the blood-clot found in the blood-vessels. Now by using catgut No. 0 you will give time to the organization of the blood-clot in the blood vessels of the cut edges of the stomach and jejunum and so you will prevent hemorrhage, and there is no use of employing coarser catgut, when the finer is sufficient. Answering to Dr. Fowler, and Graham. The tissues included in the through-and-through suture will always slough off more or less, because if the suture is hemostatic, it has to strangulate more or less the tissues and the cut edges always heal by second intention, which means a more or less abundant loss of tissue: our suture must limit the sloughing to the least possible amount of tissue, and the suture recommended, taking in only about two millimeters of the cut edges, assures hemostasis, approximation of the mucosa and the serosa and minimum sloughing, better than any other suture and this point was studied very carefully, in a great number of experiments made for this purpose on animals. I stated that healing of the cut edges is always by second intention, because you have to realize that it is not possible to make any operation on the stomach or intestine aseptically, when the mucosa is opened. The cut edges in themselves are infected, and even if the acid contents of the stomach might render the stomach sterile, the cut edges are always infected by the food and beverages introduced into the stomach, then we have to take into consideration the fact, that the cut edges are traumatized and deprived by the use of the suture of all or part of their blood-supply, so that we have all the elements that favor infection and make healing by second intention absolutely inevitable. With the technique recommended the trauma to the cut edges, the infection and the shutting off of the blood supply are limited as much as possible, because fine catgut is used, we do not uselessly traumatize the same cut edges, and by tying the large blood-vessels of the stomach it is possible to obtain a close approximation of the cut edges which will seal the blood-vessels, without the necessity of keeping the suture extremely taut. By performing gastro-enterostomy without clamps you are sure of your hemostasis, because your suture has to be haemostatic in order to stop bleeding, and if you see that you control all bleeding with your suture, it means that you have obtained a good haemostasis, while if you use clamps you do not actually know that your suture is really haemostatic, because haemostasis was made by the clamps, and when you remove them you do not know if any small blood-vessel is not going to bleed later in the lumen of stomach and jejunum. The use of fine catgut is recommended because it is sufficient to hold the cut edges together for eight or ten days, even in the most acid stomach, and if union has not taken place during this time, which time is sufficient to insure positive haemostasis and union of the cut edges, it means that union will never take place. In animals the acidity of the stomach was increased artificially in order to test the resistance of the catgut, and it was found that it always lasted between seven and eight days at the minimum. This time is sufficient to insure haemostasis and union of the cut edges, because by this time the suture does not hold any more the cut edges close together, the suture becoming loose, no matter what material you use, whether it be coarser catgut than No.-0, or whether it be silk or any other unabsorbable material. The bringing of all these points before you would be more valuable if I could demonstrate these points by actual experiments carried out in your presence. Unfortunately, I cannot do it at this moment, but I can state that a great number of experiments have proven to my satisfaction, and to that of others who have observed the experiments, that the facts related to you correspond in every detail to what was observed during the experiments, and I hope that at some later time and in an appropriate place I shall be able to show you the correctness of my assertion. In regard to the lock suture, mentioned by Dr. Pilcher, of course I had been thinking myself that the lock suture might be more valuable than a plain over-and-over suture, especially in preventing hemorrhage, but while you can make the lock suture on the posterior layer of the suture, the question arises as to how you are going to make it all around. I have tried it and found it was a physical impossibility. It is a physical impossibility, because you cannot obtain a close approximation and inversion of the cut edges on the superior portion of the suture if you use the lock suture, so that I have resorted to the suture that I recommend, taking the stitches very short and close to the cut edges, this makes the suture absolutely haemostatic. Dr. Fowler, says it is impossible not to rotate the jejunum. I will say that I did not enter into the anatomo-physiological reasons why the no-loop operation prevents vicious circle, but I will state here, that if you look well at the jejuno-duodenal angle you will notice some very interesting features: the last portion of the duodenum is fixed to the abdominal wall. The first portion of the jejunum is held in a certain position by the ligament of Treitz; by anatomosing the first portion of the jejunum to the stomach, this portion is kept in a certain position by its union with the stomach so that if the union with the stomach is made in such a manner that then the jejunum is not twisted or rotated but is left in the position in which it was found, there will be no rotation and you will have a perfect union between the stomach and jejunum, that will prevent vicious circle, no matter whether the anastomosis is peristaltic or antiperastaltic. This union in order to be perfect must always be made in such a manner, that there is no twisting of the jejunum, and this is done by direct sight identification of the first portion of the jejunum. Good or bad results depend on many circumstances, as I said before. Here we are speaking of technical points which will not prevent complications in all cases, but will prevent all that can be prevented by the technical skill of the surgeon. The question that you have to ask me, as done by Dr. Goodrich, is this: does the method of closing the stomach and the jejunum by the two sutures that you have presented tonight make the strongest union that it is possible to obtain? The answer is, Yes, it does, because experimental work has shown me that the union obtained following the technique I have explained is really the strongest and is the one that prevents leakage and hemorrhage better than any other technique, but do not expect any surgical procedure to be good in one hundred per cent of cases; I wish that we surgeons could have a surgical procedure, that is as good for our cases as mercury and quinin are respectively good in cases of syphilis and malaria, well, not even mercury and quinine are absolutely satisfactory in one hundred per cent of cases. Dr. Goodrich, raised the question, as to whether this technique is easy or difficult. Some of you may think that it is exceedingly difficult and not for the average surgeon. In answer to that, I would like to say that after you get accustomed to the performance of gastro-enterostomy with this technique, you will find that it is most satisfactory and perhaps the easiest technique to employ, and I can make this point very strong by relating what happened in my laboratory. There I had a colored woman who was illiterate and by profession a washerwoman; she was taking care of the laboratory and helping me during some of my experimental work. After a couple of months that she had watched me work, she could perform a gastro-enterostomy so perfectly with the technique that I have described, that the doctors who were taking courses in surgical technique would ask her if their work was as good as it should be, and if it resembled the gastroenterostomies performed by Dr. Soresi. Now, I do not want to compare the ability and the intelligence of any one of you to the ability and the intelligence of this colored woman, but this will make it clear that if this woman could learn how to perform a gastroenterostomy as perfectly, as I would like to have it performed upon myself, if I should need it, in about two months' time, it is an indication that it is certainly not a difficult technique that would require to good surgeons as you are, a great deal of time to master. Naturally, I will not dwell at length on all points relating to gastroenterestomy. It would take such a long time that you would go to sleep without ether. However, there is a part of the paper that I did not read before, but which I would like to read now:

"'We also call your attention to the fact that the importance of employing the very best sutures which interfere with the blood-supply of the cut edges as little as possible is not a theoretical idea, but it is of the most practical importance when gastroenterostomy is performed on patients whose blood-vessels are rendered less elastic or altered in any way by old age or disease, on anemic patients whose blood is poorer in the elements that are essential in making possible the organic union of the cut edges, on patients suffering from cancer of the stomach, in whom the tissues perhaps, for both the reasons mentioned above, do not adhere as well as when cancer is not present—in all these cases leakage can be prevented obviously better by favoring early organic union of the cut edges of the stomach and of the jejunum, which organic union will be better and stronger the better the blood-supply of the cut edges. These considerations emphasize the importance we attach to perfect suturing in gastroenterostomy.'

"You have all seen cases of cancer of the stomach where leakage has occurred. Now, I do not pretend to claim that the technique I have described will render these cases where adhesions are difficult to obtain one hundred per cent leakage-proof, but it will give you positively, as good union as it is possible to obtain at the present time, because the union obtained with the method that has been described is the best that can be obtained at the present time. I believe that the case I related to you of the man who ate peanuts and drank water is clinical proof that the anastomosis between the stomach and the jejunum was certainly exceedingly good.

"In answer to Dr. James T. Pilcher I will say if the patient has had education in stomach lavage then, of course, there is no necessity for educating the patient still better, but if the patient has not had this education I think it is indispensable that the patient receive this education, and I can relate a very illustrative case that occurred in Miss Alston's sanitarium: the patient drank some iced water and felt upset and made efforts at vomiting; by telephone I advised that he be given stomach lavage. When I reached there, the patient looked more like a bullfrog than a human being, his eyes popping out of his face; the nurse who should have given the lavage was not an expert, and the poor man suffered more from the lavage than from the operation itself.

"In regard to exploration: I do not claim that the hand should never be put into the abdomen in order to explore the abdominal organs, but I do claim that the systematic placing of the hand into the abdomen without having first seen the condition of the organs *in situ* is absolutely wrong, and I desire to emphasize this point as strongly as I possibly can. The first requisite in good surgery is to see the condition and the relation of the abdominal organs in *situ.* Then if necessary, any organ can be palpated but I repeat that it is absolutely wrong to enter the abdominal cavity with the hand up to the wrist and go up and down palpating all the abdominal organs and upsetting their relation, or hooking the jejunum with the index finger, as it is so commonly done in order to bring it out of the abdomen.

"In regard to the occlusion of the opening in the meso-colon: this can be occluded very easily after the through and through suture is made by suturing the mesocolon to the stomach, keeping a few centimeters away from the sero-serous suture, and this can be done more easily if the posterior layers of sutures is applied as has been recommended and is not possible if clamps are used. With respect to the weak point of the angles if a knot was present; I covered that point, because the angle is in itself a weak point, the knot renders any point weaker, so that if you put a knot at the angle, the angle will be the weakest point in the suture, and that is why in the technique which has been recommended here tonight the angles are sutured in the open, as any other portion of the cut edges, and knots are placed away from the same angles; so the practice of tying a knot at each angle of the posterior suture and then tying other knots at the same angles in the through-and-through suture cannot be condemned too strongly, because in this manner the angles are made a very weak point, and if the knots are volminous and the threads left long. they will act as seton, carrying the secretion found around the cut edges into the abdominal cavity. About reinforcing the serosa of the stomach and of the jejunum after the sero-serous suture is completed, because the surgeon feels that the union will be stronger, there are objections to such a practice; first of all these separate reinforcing stitches can be put only on the portion of the stomach and the jejunum that is visible after the gastro-enterostomy is completed, this portion of the stomach and the jejunum does not constitute the whole portion that have been sewn together, so that even admitting the utility of such reinforcing separate stitches, it is seen, that the posterior portion of the suture would not have any reinforcing stitches, this means that one portion of the suture line would be stronger than another and as leakage is more apt to occur at the weakest point our aim is to make the suture line strong all around and not only on the anterior surface, leaving the posterior surface weaker. Unless we abolish all the weak points, you all will agree, that we would not be doing good surgery and I believe that few or many reinforcing stitches on the anterior portion of the line of suture would not represent ideal surgery. And there are also other reasons why the separate stitches have to be condemned: if they are put in in order to make the suture line stronger, why not make an anastomosis with three rows of suture. It is a more quick and rational procedure that limiting one self to put here and there separate stitches, that appear to me more like the work of a man who is not sure of his technique and tries to satisfy his conscience by reinforcing a poor work here and there; with these remarks I do not mean to state anything personal against the technical skill of any surgeon, I only intend to show that the practice of putting reinforcing stitches is a very poor one and one to be discarded notwithstanding the fact, that it is recommended by surgeons of great ability and long experience, because it is recommended not on account of a conviction supported by experimental findings or logical reasons, but because it has been recommended by some one, whose technique was perhaps not perfect and the recommendation is repeated from one text book to the other and the practice has become a current one. What we have to aim at, is to a union between the stomach and the jejunum as strong all around as it is possible to make it, but with the firm conviction of making it really strong all around and not only in spots, and I do really believe that the manner of suturing that I have demonstrated tonight is really in all cases, without exception, the strongest that can be made. Dr. Pilcher has said something very true and deep when at the beginning he stated that the more experience he gets, the less he is inclined to make strong and definite statement. This shows that we have to possess the reasonable modesty that goes with people who have real talent, at the same time I do believe that certain statements must be made strongly and convincingly and unequivocally, when they concern not appreciation of facts, which might vary according to the age, temperament, social condition, health, experience, nationality, religion and what not of the person making the assertion; but facts are what they are and must be stated as they are and emphatically as they are. If any one should doubt of the fact that 2 and 2 makes 4, you would emphatically state that two and two are four, because this is a fact, so when I make my assertions I do not make them softly, because I do assert only facts regarding technique, which is a science that can be called almost mathematical, I do not state emphatically that in a certain class of cases gastro-enterostomy is the best procedure, because the value of the procedures depends on many factors that have to be valued according to special conditions and circumstances, but I can emphatically assert that a certain manner of suturing the stomach or the intestine respects better than another the blood supply, or ruffles more or less the tissues, because I can ascertain with almost mathematical certainty which suture respects better the blood supply and anyone can see whether the tissues are ruffled or not. If you come close I can demonstrate to your complete satisfaction that for instance the sero-serous suture that I recommend does not ruffle the tissues nor does strangle them and that you can pull as hard as you like, but you will not injure the tissues included in the suture, while if you use an over and over suture you will strangle the tissues, deprive them of their blood supply and ruffle them. I do believe that the proof I have given you is so convincing, as to justify my emphatic statement. I repeat, I have been presenting to you only the technical points of gastro-enterostomy, which are based on facts that have been studied experimentally and that they are as they are and could not be changed: what might change is the interpretation of these facts and their application in our routine clinical work. And allow me to explain why I state that the sutures I have described to you represent the very best means of anastomosing the stomach and the jejunum; you see here that the through and through suture does approximate closely the cut edges, prevents hemorrhage and approximates the serosa of the stomach and of the jejunum. Please look here and you will see that the serosas are approximated for about two or three m. m. then there is another suture beyond this one which does approximate the serosa without interfering with the blood supply, so that you have all the elements that will favor the formation of strong union between the stomach and the jejunum, without fearing the formation of adhesions beyond the ilne of union, because beyond the line of union, serosas have not been either traumatized or infected, and the blood supply in the tissues found between the two sutures is absolutely very good, indeed it is normal. About the size of the stoma Dr. Pilcher states that I am not mechanically correct, because the jejunum can hold a larger bolus than the one that would pass through a stoma made only one centimeter larger than the diameter of the jejunum, on account of the preesnce of scar tissue: I will answer that by a question: Does Dr. Pilcher, think that it would be desirable to have a large bolus composed of absolutely undigested food go directly in the jejunum; if he does, it means that he believes that gastric digestion is useless and this belief, would not be correct according to what we believe to be physiological function of the stomach.

"About taking empirically the position of allowing but one centimeter for contraction, I will say that the position is not taken empirically at all, but is based on several hundred gastro-enterostomies made by myself and others which proved exactly that when gastro-enterostomy is performed with good technique that has to reduce the scar tissue to a minimum, *the maximum contraction is about one centimeter.* In regard to making a larger opening, Dr. Graham, has answered well to one point, the other objections to it are; why make a larger opening that requires more time to close, entails more danger, traumatizes more tissues, when as Dr. Pilcher asserts, the function does not depend so much on the size of the stoma as on other factors, and on what ground does he base his assertion, that the larger the stoma the better? I can say that the larger the worse, and I believe that I have proven my assertion to be correct. I do not think that surgeons can do better work than nature has done. Look at the opening between the natural anastomosis between the caecum and the ileum; it is exactly the size of the ileum, and if that size is found good in millions and millions of human beings and works as well as it has been doing, for instance for about seventy-five years, as is the case of Dr. L. S. Pilcher, I believe that we surgeons can take it as a very good example and try to imitate it as closely as we possibly can. The similarity between a funnel and the stomach and jejunum, I believe illustrates well the point I wanted to bring out about the size of the stoma, without taking into consideration the elastictity of the tissues and the rigidity of a funnel, and the latter, for that matter, could also be made of elastic material, and the comparison would hold good. The trimming of the mucosa if not necessary, not beneficial, why should it be done? Moreover, I believe I demonstrated that it might be harmful, so that I believe it to be correct when I assert that the surgeon should never trim the mucosa.

"Dr. James T. Pilcher criticised the incision in the middle of the jejunum because the blood-vessels are terminal at that point while at the side the circulation is better. This objection is very deep. Let me ask a question of Dr. Pilcher. As long as the blood-vessels are terminal in the middle of the jejunum and the circulation is poorer than at any other point of the jejunum, doesn't he think that an incision made along that line is the ideal one because it is easier to prevent hemorrhage if the incision is made along that line than anywhere else, and, moreover, if the incision is made sidewise, one portion of the anastomosis will be well supplied with blood while the other will not? If it is made in the center instead, the blood-supply will be identical on all sides and, therefore, there will not be any point that is weaker than any other point in the line of anastomosis."

Society Transactions

TRANSACTIONS OF THE BROOKLYN SURGICAL SOCIETY.

Regular meeting of the Brooklyn Surgical Society, held at the Building of the Medical Society of the County of Kings, 1313 Bedford Avenue, Brooklyn, N. Y., Thursday, Nov. 6, 1919, at 8:30 p. m.

The President, James M. Downey, M. D., in the Chair.

Report of Three Cases of Septic Arthritis. Patient.

Edwin H. Fiske, M. D.

Case No. 1.

Willie E., age 13, was admitted to the Holy Family Hospital November 30, 1917, and discharged August 31, 1918. Diagnosis:—Osteomyelitis and epiphysitis of tibia. Septic arthritis of right knee.

One week before admission the boy became ill with chills and fever. He was able to attend school. He was very much worse on the night of that day and was taken with intense pain in the leg, locating the pain in the knee-joint. The youngster vomited and on admission to the hospital, eight days after the onset of his illness and seven days after the beginning of the pain in his leg, he had a temperature of 103.4 and a pulse of 120. He was seriously ill. The entire leg was edematous and swollen and extremely tender.

An X-ray was taken at the time of his admission and confirmed the diagnosis of an extensive osteomyelitis.

On the second day of his admission to the hospital, he was taken to the operating room. The epiphysis was only slightly involved. The entire shaft and medullary cavity of the tibia were involved. The entire anterior half of his tibia was removed from the upper to the lower epiphysis, and the medullary cavity was curetted free of its necrotic marrow. Carrel-Dakin treatment was instituted, eight tubes being introduced and gauze saturated with Carrel-Dakin solution loosely packed in the cavity. The joint showed no involvement at this time.

Within 24 hours after operation the temperature reached 104. Forty-eight hours after operation it was 100 and from that time on until the complication arose it never went above 100. It was controlled by excision of the anterior half of the bone and Carrel-Dakin treatment. No attempt was made to close the wound, but it was allowed to close by granulation, which it did very slowly.

On February 9, three months after admission to the hospital, he began to run a high temperature. He began to manifest an infection in his knee-joint as indicated by general swelling and redness and pain. Aspiration of the joint showed staphylococcic pus in the joint.

The joint was then incised freely on both sides from about the middle upper border of the condyles down to and across the knee-joint, and at the time of operation two Dakin tubes were introduced on each side of the joint, and the joint was irrigated thoroughly with Dakin's solution, with the tubes in, for 48 hours, at the end of which time the tubes were removed and the solution injected into the joint at periods during the day. In ten days the soft tissues of the joint capsule had closed so that there was no longer any communication with the knee-joint. Then the skin wounds about the knee healed very slowly.

From the beginning he was not placed in a cast, but was allowed to rest in a trough splint, and while at that time we didn't know about the De Page-Wilms treatment, he was not fixed in any way.

I report this case for three reasons:

First. The acute osteomyelitis which went the ordinary way that so many of these cases go in the hospital, with almost complete destruction of the tibia.

Second. The intercurrent and apparently independent infection of the knee-joint.

Third. The wide incision of the knee-joint with irrigation with the Carrel-Dakin solution, resulting in rapid closure of the joint incisions.

I would like to show him so that you can judge of the function that he has.

The patient was exhibited to the Society.

Case No. 2.

In comparison with the previous case I would like to briefly report the case of a child 10 years of age.

M. P. came into the hospital August 10, 1919, with a compound dislocation of the right elbow, complicated by a fracture of both bones of the forearm, about three inches below the elbow.

In this case the joint became infected.

The fracture which this boy had prevented, in the early part of his treatment, any possibility of motion in the joint, and so this septic joint has gone on.

The sepsis has left the elbow absolutely ankylosed.

Case No. *3.*

The third case is one now in the hospital, another infected elbow in a boy 8 years of age.

Patient John R., was admitted to the hospital October 17, 1919, with a history of having injured his elbow six days before admission to the hospital by falling on a piece of tin and cutting his arm. He came into the hospital with a temperature of 102 and a pulse of 110, and an acute arthritis of the elbow.

The elbow-joint was immediately opened, both externally and internally, and he was, from the very beginning, encouraged to and did make active motion in his elbow-joint.

This operation was done October 18 and I can only report to you that his elbow is progressing very very well, he has about 15 degrees of motion in his elbow-joint now, and that his joint cavity, just as in this case, is already closed off from the open air and there is no longer any pus in his joint.

The reason for reporting the other two cases is that one was immobilized from the beginning. The patient has no septic joint and has no ankylosis. This was not immobilized. It was not, however, given regular movements because we did not know at that time of this system of treatment. The other case under treatment now is getting free motion in his elbow and I think will get a perfect range of motion.

The only one disturbance that this boy has in his joint is perhaps a slight lack of stability. If you will lock his knee-joint you will see that his ligaments were, I suppose, stretched, or lost some of their elasticity, and he now has a knee-joint that is slightly movable laterally.

DR. LEWIS W. PEARSON:

"I would like to ask Dr. Fisk, if he curetted the medulla for necrosis, or whether it is his custom to curet it in osteomyelitis? Of late I have been content to chisel into the medulla and drain without curetting. I believe my results have been better.

DR. EDWIN H. FISKE:

"I would say, in answer to Dr. Pearson's question, that the entire medullary canal in this case was full of pus, the marrow being all gangrenous and septic. The entire canal was cleaned out with a curet, making one clean canal. It is not usual to clean out the marrow in those cases where the infection is restricted to one portion of the shaft, but the entire front half of the tibia was chiseled away, and then the medullary canal was exposed and found full of pus and is breaking down now."

Traumatic Rupture of Cystic Kidney. Specimen.

George I. Miller, M. D.

T. H., aged 4 years and 4 months, white, was seen by me October 18, 1919. The family physician stated that the day before, the patient fell on the street pavement and immediately complained of extreme abdominal pain, vomited twice and pointed with his hand to the umbilicus.

Past History. The mother noticed an abdominal mass in the boy's left side when he was 14 months of age. The mass grew larger as time passed on and at no time has it diminished in size. The doctor who examined the child at first believed it to be the spleen, later a sarcoma of the kidney, and, finally, a watery tumor of the kidney.

He had measles, chicken-pox, whooping cough and diphtheria. He never had convulsions. He moved his bowels regularly without catharsis. He passed urine normally, at no time in excessive quantities. The boy never complained of pain in any part of his body. His urine was sent for examination to laboratories. The report was a few pus cells present. The mother has 3 more children, all healthy. No one in the family had a similar condition.

Examination. Boy in bed, acutely ill, fretful and points to pain in his abdomen.

The abdomen was rigid and tender, most marked in the midline and towards the left. He passed urine, not bloody, several times since he fell. No evidence of injury elsewhere on the body.

I sent him to the Jewish Hospital, where I operated on him the same day.

Symptoms, Diagnosis and Method of Procedure. Confronted with a patient too young to describe his symptoms, I relied on the history given by the mother and the family physician. He had what was known as a watery mass of the left kidney, which gave him no pain or discomfort. He fell on the street pavement, became acutely ill and vomited during the 24 hours before my seeing him. He passed non-bloody urine.

Examination revealed a rigid abdomen, exquisitely tender.

My diagnosis was ruptured kidney and I still decided to at first open his abdomen to exclude the possibility of a ruptured appendix and to palpate his right kidney before removing the injured organ.

Operation. Median incision, 3 inches long, from one inch above the umbilicus downward; peritoneum opened. About 4 ounces of serosanguineous peritoneal fluid was sponged out. The appendix was 2½ inches long, intensely congested and not adherent. It was removed in the usual manner.

The mesenteric glands of the small intestines were innumerably enlarged, in a state of active inflammation.

The mesentery of the descending colon was spread to a right angle and filled with an oblong fluid mass.

The entire mesenteric covering of the mass was dark in color.

The right kidney, on palpation, was found in place and normal in size, not cystic. The liver and spleen were normal.

The left kidney appeared in size and consistency like a large ovarian cyst.

The abdominal wall was closed, without drainage, by three layers of sutures. The patient was placed in the kidney position. A semilunar incision, 4 inches long, was made over the left kidney.

On opening the lumbar aponeurosis and retracting the lumbar muscle, a cystic kidney, 6 by 3 inches in diameter, was liberated from a bed of adhesions. The kidney was lifted into the wound. The vessels were ligated.

The ureter very much thickened, resembling an umbilical cord, and not adherent to the peritoneum or any structures, was followed down to about one inch from its entrance into the bladder. There it was divided between two ligatures. The kidney, transformed into one large cyst, filled a pus-basin. Two cigarette drains were placed in the kidney bed and the wound was closed with three layers of sutures.

The patient made an uneventful recovery; both wounds healed by primary union.

Pathology. The removed kidney, laid open, shows the cortex entirely destroyed, with only a thin functionless wall, due to progressive pressure atrophy, with flattening of the papillae, obliteration of the uriniferous tubules and of the glomeruli, and without any remnants of kidney tissue remaining, except a few ridges denoting the previous presence of several separate pockets representing a primary congenital defect or the last stage of a secondary process. The wall of the dilated, tortuous ureter is relatively thickened. Its lumen shows no sign of constriction, no twists and no valves. The obstruction is, therefore, at the entrance into the bladder.

Diagnosis. Traumatic rupture of a hydronephrotic kidney. Hydronephrosis due to congenital stricture of the ureter near its entrance into the bladder.

(*To be Concluded*)

A Case of Splenomegaly Due To Banti's Disease. Patient.

George I. Miller, M. D.

Golde D., aged 48 years, Russian, white.

Admitted to the Jewish Hospital September 8, 1915. Discharged October 8, 1915.

Family History. Negative.

Previous Personal History. Patient married 28 years. Gave birth to 6 healthy children. Never aborted. Menstruation regular.

Had typhoid fever at the age of 20 years.

For the past 8 years she has had pain of myalgia.

Present Illness. Six years ago she was admitted to the Vienna General Hospital for pain in the abdomen and left side. She remained in this institution 4 weeks and left feeling well.

She arrived in this country two years ago.

Six months ago the patient noticed a hard mass in the left hypochondrium, which gradually increased in size. Two months before admission to the hospital, she had an attack of abdominal cramps which lasted 24 hours. Since then she feels a sensation of weight and sticking pain in the left side of the abdomen. She does not cough or vomit. She lost 50 pounds in weight in the past 8 years.

Physical Examination. Adult female, well developed, anemic, not dyspneic. Appears chronically ill. No glandular enlargement. The abdomen has a firm mass in the left side, extending from the tenth rib to the pelvis and to the linea alba, anteriorly. The mass is somewhat tender.

Extremities—Varicose veins of legs. Reflexes normal.

Urine Examination—Specific gravity, 1020. Acid. Negative.

Temperature, 101 F. Pulse, 100. Respiration, 20.

Blood Examination—Red blood cells, 3,260,000. Leucocytes, 7,400. Neutrophiles, 61. Lymphocytes, 34. Mononuclears, 3. Basophiles, 1. Eosinophiles, 1. Hemoglobin, 70%.

Operation, September 20. 1915. Ether anesthesia.

Left upper rectus incision. Peritoneum opened. Adhesions at upper and left of the spleen separated without difficulty. Spleen delivered. Ten by 6 inches in size. Pedicle tied with double ligature and cut. Spleen removed. Abdomen closed. Immediately following operation I transfused 350 c. c. of unmodified blood. Four to five accessory spleens, about the size of walnuts, were present. One of these was removed for examination.

The patient made an uneventful recovery and has since gained about 20 pounds in weight and is in perfect health. She has been absolutely cured by the operation.

I succeeded in locating her and am glad to present her here for your inspection of the scar.

(To be continued)

Editorial Note.

Owing to the elaborate nature and full discussion of Dr. Soresi's paper it has seemed wise to produce it in full in a single issue to the exclusion of other matter. The March number will resume the usual form in which the Journal regularly appears.

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WHAT A CHILD SHOULD DEMAND OF HIS DOCTOR.*

Frank Howard Richardson, M. D.

Brooklyn, New York.

THE subject of my paper tonight takes it for granted that there are some rights inherent in every individual which the right-thinking are bound to respect, whether that individual can enforce them or whether he cannot even voice them. Our adult patient frequently knows, or thinks that he knows, what he has a right to demand of his physician. Whether he demands what is best, and whether he gets what he demands, need not concern us now. What we shall insist upon, however, is the inherent right of every infant or child who is brought to a doctor, to receive diagnosis, and prophylactic as well as curative treatment, even though his is but a mute appeal, or though he has no language but a cry. This paper will discuss an attempt to comply with this unexpressed demand, satisfactory or not as we conceive of our duty toward one who can insist upon nothing, if we refuse to grant his demand.

I want to present a tentative plan for the complete examination of an infant or child,—a scheme to be carried out more or less completely, perhaps, in individual cases, with a view to securing preventive, corrective and curative treatment of that child. And coupled with that goes the essential prerequisite, the instruction and inspiration of the mother who brings him.

The plan I am laying before you might perhaps be briefly described as a pot pourri or goulash of half a dozen more or less reputable medical and lay ideals. It embraces a dash of that much quoted old Chinese doctor pay-while-you're-well-stop-paying-when-you-get-sick chestnut; a goodly element of the army medical examination (that searched out imperfections which would keep a man from enlisting, only to throw him into the arms of the selective service board, which worked quite as hard to keep him from escaping service!); all of the army's preventive sanitation and hygiene, as well as its serum and vaccine prophylaxis; and a liberal sprinkling of the life insurance examination's grilling, the Health Institute, and the Life Extension plan, with their initial complete examination and recommendations and their periodical re-examinations and checkings up. Stir this up, strain it through the good old family doctor's sanity, and season it with grandma's common sense,—for we need something to give balance and cohesion and proportion to it all. All of these ideas our young mothers and fathers have become familiar with recently, even if they did not know of them before the war. They would like them for themselves; but they are beginning to *demand* them for their children.

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* Read before the Society of the Ex-Internes of the Methodist-Episcopal Hospital, September 25, 1919, at the Montauk, Club, Brooklyn. And, by request, repeated before the Pediatric Society of Brooklyn, September 22, 1919.

Perhaps the nearest approach to what I have in mind, that has thus far actually been put into effect for children, is the nutrition class idea, for the school children of the very poor, that was tested out in two of the public schools of New York City, by Emerson of Boston. Instead, however, of putting the emphasis upon the providing of the proper food elements, and the proper caloric requirements, (so necessary in the case of the children of the very poor), our emphasis is placed upon the portion of his work that is taken for granted, but that most of us find far harder to attain, in private practise, than getting the proper food. And that is, the complete and exhaustive preliminary examination of every child who is to enter the class, made effective by the correction of every remediable defect found, before he is admitted to the nutritional class at all! It is this correction of errors that most of us find such a herculean task. Emerson can, and does, bar from his class any child whose parents will not consent to the taking of all the steps prescribed by the examining physician for the remedying of any defects found. But what one of us is prepared to draw a similar line, and refuse to treat any child whose mother declines to have a half dozen carious teeth extracted at our behest, or commence a thousand dollar orthodontal job at once, in order to retain us as her child's medical adviser? Which of us can honestly say that he has no child in his practise with frankly undesirable tonsils or obstructive adenoid vegetations,—or with a marked astigmatism uncorrected by glasses, or with some other gross error plainly discernible for him who runs to read,—which he has never suggested be corrected because, forsooth, the parent has never directly asked his counsel in the matter? How many of us ever urge protective work for the children of our families,—or need more than the fingers of one hand on which to count the number of families, or even of individuals, that come to us in what they believe to be good health, for a periodical "looking-over?"

In a word, then, this paper voices a plea for four things. First, a complete, detailed, recorded history, and physical and mental examination, of every child within the reach of every practitioner, general or special, who has to do with children, either in private practise or in dispensary work. Second, a clearly written out, simply worded, summary of the child's condition, with definite, comprehensive recommendations as to his future management. Third, a campaign of propaganda of the very best sort,—the person-to-person, doctor-to-mother, "won-by-one" kind,—to improve the children that we already have, leaving it to the eugenist to provide us with better ones in the future. And fourth, a periodical re-examination and checking-up of results, to show the easily demonstrable improvement that such work is bound to produce, and to encourage both doctor and parent to continue in the work of betterment.

I believe that most of us have at some time or other been genuinely embarrassed, and actually at a loss as to just how to proceed, when a father or mother has brought us a child with the request that we "give him a complete examination," as the saying goes, to be repeated from time to time,—surely not an unreasonable request, and quite as surely indicative of a spirit that we ought to encourage, not discourage, on the part of the laity. And yet has not every one of us failed to give such a parent the service he desired, and actually discouraged him from returning at subsequent regular intervals, by the plainly evident uncertainty and lack of method or system with which we approach this uncongenial, because unusual, task? How easy it would have been, how eminently simple, to have fostered this advisory relationship, with all of the good that it would have meant to the child, had we but had a definite line of procedure to follow, instead of our usual rather aimless pulling down of eye-lids for anemia and cursory chest examination, with perhaps a request for a specimen of urine, that as a rule ends the seance. We are quick to respond to the call for the treatment of disease that produces symptons; but as a rule are quite unprepared to look for health, and evaluate it as improvable or not. Some such definite procedure, completed by some form of report by which doctor and parent would know just where the child stood, and whether he was improving, stationary, or retrogressing, would have cemented this relationship, and shown both doctor and parent what to stress and what to be satisfied with in their joint efforts to improve the condition of the child. A few of us do keep weight charts, and a few of our mothers fill out the weight record that accompanies some of the nursery manuals. But much more, in the way of regularly and periodically ascertaining and showing the parent progress in height, chest expansion, general nutrition, orthopedic correction, and a dozen other vital particulars, is essential, if we are to gain and hold the individual child long enough to give him the service that he is entitled to. All of this can be put into readily assimilable form for the parent, in such a way as to make intensely interesting records for him, as well as most valuable data for the observing and directing physician.

Another field in which the child has a right to demand his physician's services, is that of preventive medicine. To the physician whose conscience is on the job, the relation of his little charges to preventable disease is a matter of some serious concern. It goes without saying, I think, in the light of modern medical thought, that there are three diseases whose appearance among one's patients is as reprehensible (theoretically at least) as is the appearance of bedbugs in a household or lice in an individual,—because quite as preventable! These three are, of course, smallpox, the typhoid fevers, and diphtheria. Not a man here but knows how absolutely preventable these are; and yet I should hesitate to ask for a show of hands to indicate how many of us had, during the past three months, done a Schick test, or administered a toxin-antitoxin protection against diphtheria, or vaccinated a child against smallpox, or inoculated one against the typhoids, on his own initiative, without having been prodded on to it by an alert parent or by an up-to-date school entrance law. How many of us have made the test for protein sensitization in children with asthma, or eczema, or a susceptibility to colds; or found the offending pollen for a youngster with "hay-fever"; or done a urine examination in the case of a rapidly growing adolescent passing through the turbulent period of reaching puberty,—unless the child's parents actually demanded it of us?

FIG 1

Name				Date			DIAG.				
Ref'd by				Born							
				Age							
	Father					Tb.		Mother	Liv.	Chd.	Dead
FAM.	Name					Lues.		Miscarriages			
HIST.	Address			Tel.		Malig.					
	Business Ad.			Tel.		Alcohol					
						Neurotic					
BIRTH HIST.	Premature Full Term	Labor	Length Char.	Chlor-Insts. Asphyxia	Wt.		By Guess By Scale				
		Entirely		......Mo.	Every......Hours		Why Weaned				
FEEDING	Breast	Partially		......Mo.	Every......Hours						
HIST.										Now Gets	Cal.
	Bottle		Milk	Water			Sugar	B's	Oz.	Should Get	Cal.
	Breakfast	Dinner		Supper			Btw. Meals	Beer	Tea	Coffee	Sodas
	Measles	Rheum.		Pneumonia			Tonsilitis		Other Dis's		
PAST	Scarlet	Mumps		Pleurisy			Tons. and Ad. Op.				
HIST.	Diph.	C. P.		Pertussis			Freq. Cold	Ear	Injuries		
	Roetheln	Heart		Asthma			Gast. Intest.				
PRES.	Stools	No.		Color	Consist.		Amt.	Odor	Min.	{ Before Fdg.	
COND.	Vomiting	No.		Char.			Amt.	Odor		{ After Fdg.	
	Sleep	Hrs. in A.M.		In P.M.	In Night		Appetite	Cath.			
PRES. HIST.											Chief Complaints
GEN.	Fat	Well Nour.	Bright		Alert	Firm	Intelligent		Mongoloid		
IMP.	Thin	Poorly Nour.	Stupid		Sluggish	Flabby	Anxious		Rhachitic		Cry
	Emac.	Rather Pale	Responsive		Over-active	In Pain	Nervous		Adenoid		Snores
	Atroph.	Very Pale	Rosy		Lethargic	Dyspneic					
MEAS.	Wt. Ht.	Circ. Head Circ. Chest			T P. O. P. R.		P Rate Char.		R Rate Char.		
SKIN		Color	Disease		Rash		Char.		Distrib		

DEVEL'T	Holds Head Up Sits Alone	Creeps Stands	Walks Says few words		Talks { Baby Talk Clearly	Mentality Mental Age
HEAD	Shape	Font { Ant. Post.		Sutures Craniotab	McEwen's	
EYES	L Vision 20 R Vision 20	Ext. Dis.		Strab.	Pupils React to: L Light R Light	Accom.
NOSE	Shape	Disch. { Thick Thin Bloody	Breathing		Adenoids { Felt Inferred	
EARS	L Hearing R Hearing	Canal	Drum		Mastoid Reg.	
MOUTH	Tongue Cheeks	Palate Pharynx	L Tonsils R Tonsils		Retro Phar.	Teeth
NECK	Thyroid Thymus	Glands Ant. Glands Post				
CHEST HEART LUNGS	Shape		Groove		Rosary	
ABDOMEN	Liver	Spleen		Umbil	Genitals	
GLANDS	L Axillary R Axillary	Epitroch		Mediast (D'Espine's)		Inguinal
LIMBS	Contour Epiphyses	Gait Dexterity		Romberg Eyes Open Romberg Eyes Shut	L Hip Joint R Hip Joint	L Feet R Feet
SPINE	Motility	Lordosis	Kyphosis	Scoliosis		
REFLEXES		Brudzinski Kernig		Knee Jerk Ankle Clonus	Babinski Tache	

Dr. Frank Howard Richardson

So much for our conception of the problem of the pediatrician. I think none of you will think I have overstated its requirements. Now for an attempt at aiding at its solution. If you will refer to the contents of the little booklet that I have placed in your hands, I shall attempt to show you my own procedure in approaching this rather ambitious task. Exhibit A (Fig. 1) is the backbone of the whole program; a means of recording the careful history, and physical and mental examination, without which the efforts to be alluded to later would be but an impertinence. For while diagnosis follows careful anamnesis and examination, it certainly must of necessity precede everything else, whether of instruction, prevention, or treatment. A word as to a few points that may not be quite self-explanatory. As to its format, I may say that the 8x10 inch sheet was chosen in an attempt to graft something too extensive for the 5 x 8 record card, upon a system long in use, employing the latter size card. It also serves as a convenient go-between or compromise in linking up our 5 x 8″ card system in the Brooklyn Hospital Dispensary, with the ward histories, which are recorded on sheets the size of commercial letter pages,—8½ x 11″, just a trifle larger than our sheet. Folded, this goes perfectly with the card records, serving, as well, as a most convenient envelope or folder for other data referring to the case, such as laboratory and radiographic reports, copies of reports to the man referring the case, etc. Opened, it is large enough to contain the items deemed necessary to be covered in the routine examination of the first visit. The spaces after history and physical, respectively, give room for the recital of points that are not well expressed by filling in the spaces of a blank. The column at the right serves for emphasizing salient points that might otherwise be buried in the body of the sheet; these, added together at the top of the page, give the sum of the problem,—i. e., the diagnosis.

So much for diagnosis,—for diagnosis must precede treatment. But, just as truly, treatment must follow diagnosis; and a sine qua non of pediatric practise, in the very nature of the case, is securing the confidence and cooperation of the parent. For it never was considered good form to say to an infant, "Take a teaspoonful of this medicine three times a day, stop worrying, and take plenty of rest and fresh air," as we have so often said to others of our patients. Besides, taking a teaspoonful of anything, any number of times a day, isn't being done in the best families this year, you know. More and more is the tide turning toward the stressing of diet, nursery hygiene, and a rational regimen; and away from measures pharmacopoeal. And these are by so much eminently harder to procure than the old dosing measures, that it may almost be said that the children's man must train his own trained nurse, for each of his little patients. We usually, thank God, have the best probationers in the world, in the young mothers who come to us with an absorbing interest that the most intelligent of "probes" entering our hospitals can never hope to possess; but what of the instruction that we are to give them? If the noblest study of mankind is man, as Pope tells us, at least the most intensely interesting textbook for an adoring mother is the little life that she is watching over with such absorption; and we can, if we will, give her our translation of that document in words of one syllable. Not, though, in the form of this rather technical history and physical blank; a transcript of this would be but a farce. It would be unsatisfactory, unadapted to her needs, worse than meaningless to her, as the dullest imagination can readily conceive. For while missing the most important points, which she should most certainly have impressed upon her, she would undoubtedly make mountains of some of the mole-hills that we might have mentioned in the course of our routine examination. Then, too, why not give Father a chance to know what has been found out, and to cooperate in the campaign of betterment? He is the one who (at least, let us hope!) is going to pay the bill; why not give him something tangible to show for his outlay; something to take away,—yes, and to show to admiring friends, if you will. But just how shall we express what we want them to know about their youngster?

FIG. 2

REPORT OF **DATE**

Age			Average at this age	Recommendations
Weight	lbs.	oz.	lbs.	
Height	ft.	in.	ft.	
Chest Circum.		in.	in.	
Gen. Nutrition				
Skin				
Development				
Mentality				
Vision	L $\frac{20}{}$	R $\frac{20}{}$		
Hearing				
Speech				
Teeth				
Tonsils				
Adenoid Tissue				
Glands				
Heart				
Lungs				
Abdomen				
Genitals				
Spine				
Limbs				

To answer this, I am going to ask you to turn to the first sheet of the booklet, (Fig 2) upon which an attempt has been made to devise a simplified, humanized, words-of-one-syllable sort of translation of the history and physical, adapted to the comprehension of the layman. And in preparing this do not make the mistake of underestimating the ability of your readers to follow you a considerable distance along the paths of medical parlance. Not a magazine today but caters, either frankly or sneakingly, to its feminine contingent; and the lengths to which they go in discussing medical and social problems, bids us beware not to simplify and predigest too minutely, lest we be laughed at for our pains by a mother who does not care to be condescended to, too patently. The left-hand side of the report sheet gives one our idea of what points can advantageously be brought to the attention of the parents, for their edification and instruction,—and, in the last analysis, for the betterment of our patient, who chances to be their child.

When, however, we have done this much, we have gone not even half way. What are we going to do about it? What must we do to be saved? Anyone can give destructive criticism; what about something constructive, suggestive, helpful? An attempt to answer this natural demand is made on the right half of the same sheet. Here, opposite each finding, a notation is made of what we would suggest in the way of remedying the defect noted. This is given in full,—where time and space will permit, without losing a sense of the relative importance of things; by a reference to other sources, where this is necessary. For instance, a consideration in detail of one of our mainstays, diet, would be manifestly impossible here; for this, we refer to the diet slip, where, in addition to the specific diet for the time being, some general principles are dwelt upon which should prove of help to a mother, even if she drifts away and is never seen by us again. For a few of the measurements, a comparison has been made (not with the *normal,* for we want to encourage the mother to feel that her child may differ markedly from the average without sacrificing his right to be considered normal), but with the *average* at his age, in order that what might otherwise be merely so many figures will assume a definite importance and meaning in her mind.

Nothing very profound or scientific in all this, you will say, perhaps! And yet, how much more inspiring to detect and correct some easily and simply corrected defect, that but for us might have handicapped and crippled the chances of the child throughout a lifetime, than to be able to tell a mother, proudly but not altogether profitably, "Madam, your child has a most interesting and rare form of leukemia, of the splenomyelogenous type. Of course, there is nothing that we can do for him except to secure for him the best hospital care as long as he lasts; but it really is a most interesting and instructive case!"

To the important question of diet we have, (Fig. 3) as you see, given more space than we could do on our report sheet. No mother should be allowed to leave the office of a children's man, on her first visit, without taking with her something definite in the way of instructions as to how she is to feed her child. And definiteness, to a mother in the office of a new doctor, with a child dragging at her skirts, to whom she is devoting the better half of her attention, can only be attained through the employment of the written or printed direction slip. This she can read at some later time, when she can concentrate her mind upon the matter in hand. The diet leaflet has been constructed upon the principle that, much as we should like to retain and guide all through his life every child ever referred to us, sad experience has taught us that once in a while our mesh is too coarse,—one *will* slip through! For this reason, it has seemed wiser and fairer to state some of the general principles governing the question of diet, as well as to give some of the alternative articles allowed, rather than autocratically to dictate, as we have seen done, the actual number of tablespoonfuls of this or that particular cereal a mother should give. Experience in a children's service consisting of a male ward and a female ward, with one patient in each (an intensely active one, too, I am prepared to tell a waiting world!), has taught us that even the most obedient and trusting mother in all the world will occasionally vary her youngster's chow from farina to wheatena without so much as a by-your-leave! This diet slip has seemed to give something easier to understand, and easier for a mother to modify *from* (in that rare event of her being so ill-advised as to separate herself from our ministrations), than those commoner long, uninteresting and uninspiring lists of articles ordered and articles tabooed at various ages. It is surely more stimulating, in that it allows a mother, for example, to change on her own initiative from a cereal that is constipating her baby to one that may act as a

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Fig 3

DIET FOR **DATE**

BREAKFAST **DINNER** **SUPPER**

All articles of food suitable for the feeding of infants and young children fall under one of the following heads:

1. Milk.
2. Cereals.
3. Bread (including unsweetened crackers).
4. Fruits.
5. Vegetables (including thick soups or purees).
6. Meat and Eggs.
7. Simple Puddings.

1. **Milk.** About a quart of milk, certified preferably, should be taken by a child each day. After taking milk from off the ice, the chill should be removed by letting the glass stand in warm water.

2. **Cereals.** Only the cooked cereals are considered here as suitable articles of diet. The ready-to-eat cereals may be employed simply as a means of getting a child to drink the prescribed amount of milk. Cereals should be cooked at least two hours in a double boiler or fireless cooker, and served with milk and salt but without sugar.

Cereals are either laxative or constipating, in various degrees, for different children. As a general rule, those that are brownish in color (that is, contain the bran, or husk, or shell of the grain), will be laxative; while those that are white will be more or less constipating.

Laxative—Oatmeal, Quaker Oats, Pettijohns, Ralston, Wheatena.
Constipating—Cream of Wheat, Hominy, Rice, Barley, Cornmeal Mush.

3. **Breads.**
   1. White bread, at least one day old.
   2. Graham or whole wheat bread, at least one day old.
   3. Toast, prepared either in an oven or over an open fire.
   4. Zwieback.
   5. Crackers (never sweet or between meals), graham, oatmeal, soda, arrowroot, educator, wheatena.

Under no circumstances should hot bread ever be given.

4. **Fruits.**
   1. Orange juice.
   2. Apples: raw scraped, baked, applesauce, dried and cooked.
   3. Prunes, stewed without sugar.
   4. Rhubarb, stewed with very little sugar.

(Peaches, pears, pineapple, bananas, grapes, and berries had better be given only with the doctor's permission.)

5. **Vegetables.**
   1. Baked potatoes (much better than either boiled or mashed, although they may be given this way if baking is impossible).
   2. Peas, beans (string or lima), fresh, dried or canned.
   3. Spinach. 4. Carrots.

(It may be advisable at first to strain vegetables through a fine strainer. Purees may be made of any vegetables. Other vegetables had better not be given except on the doctor's advice.)

6. **Meat and Eggs.** (If ordered by the doctor.)
   1. Chicken. 2. Boiled fresh fish. 3. Scraped beef, for babies; lamb chop, later.
   4. Egg: coddled, i.e., placed in boiling water, which is then taken off the stove. The egg is allowed to remain in it for 8 minutes.

7. **Simple Puddings.** 1. Custard. 2. Rice. 3. Junket. 4. Tapioca. 5. Cornstarch. 6. Arrowroot.

Fig. 4

FORMULA FOR **DATE**

Take Milk { From whole bottle thoroughly shaken ounces
From upper half of bottle ounces
.... ounces

Take Water ounces

Take Sugar { Ordinary Granulated
Milk Sugar, (Sugar of Milk) level tablespoons,
Mead's Dextri Maltose (leveled with a knife.)

This will make a total quantity of................oz. (the sugar dissolves, so does not count). Divide this into...........bottles each containing..............ounces

Feed at A. M.; P. M.

Utensils: 1 doz. nursing bottles; 1 doz. nipples; 1 wire bottle rack; 1 16-oz. glass graduate, measuring ounces; 1 oz. Chapin milk dipper; 1 glass funnel; 1 deep sauce pan; 1 pitcher for mixing milk; 1 bottle brush; 1 standard table spoon (i e. bowl is 2⅞ x 1¾ in.).

Do not Boil—To prepare formula with unboiled milk. Boil water. While hot, add sugar. Let it become cold, then add required number ounces cold milk. Fill up to total required, with boiled water.

Boil—To prepare formula with boiled milk. Boil water. Pour in required number ounces milk, which of course will stop the boiling. Stir vigorously until mixture comes to an active boil. Continue stirring and boiling actively for three minutes. Stirring prevents scum from forming and deposit from sticking to sides and bottom of saucepan. Remove from stove and stir for five minutes while cooling. Add sugar. Fill up to total required, with boiled water.

MUST GIVE ORANGE JUICE IF MILK IS BOILED

Then at once pour number of ounces ordered into number of feeding bottles ordered. Stopper each bottle with absorbent cotton. Place in bottle rack, in ice box, until ready to use.

When ready to feed, place bottle in hot water till at blood heat. (Test on forearm.)

Awaken baby for feeding at hours named above. He will soon become accustomed to regular hours. Hold in lap, sitting upright, as though taking breast.

Time—Fifteen to twenty minutes, regulated by size of hole in nipple.

If feeding is not all taken, note quantity left, then throw it away. Clean out bottle and nipple with soap and water, rinsing both with teaspoonful borax in water, at end of feeding.

When bringing baby to the doctor, always bring the stool last passed. It may be carried wrapped in a piece of oilcloth, or of storkcloth. This is a most important help to him, in deciding how the baby is thriving on his formula.

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laxative. It is more elastic and interesting, because it allows of substitution and change for variety's sake,—not an unimportant detail, as any father here can testify who ever sits down to feed his run-about youngsters at their evening meal. It attempts to tell her how and when and why to make certain changes and modifications,— so that, even if she never comes near us again, and yet casts an occasional eye on our slip, she may still reap some benefit from her single visit. The space at the top, under "breakfast," "dinner," and "supper" gives room to specify for the individual needs of the child.

The leaflet of instructions for preparing formulas for infant feeding is, (Fig. 4.) on the other hand, by the very nature of the case, dogmatic to a degree. No latitude for personal judgment on the part of the mother or nurse is desired here; hence none is encouraged, and definite instructions instead of general principles are laid down. The one great fault to be found with the best known and most widely used of the manuals for the care and feeding of infants would seem to be the inclusion, by the eminent writer, of complicated instructions to mothers and nurses for varying formulas on the strength of their interpretation of various symptoms,— a task that we feel should be attempted only by the infant feeder himself. We have preferred to lean here, therefore, to the opposite extreme. At the head of the sheet are spaces for writing in definite quantities of the various ingredients; below, are minute detailed instructions as to how to prepare the food.

As an example of how one's preconceptions change, the next slip, (Fig. 5), headed "Vacation Report," is rather interesting. One of the first of the series to be employed, this was, as its name implies, designed to enable us to keep in touch with feeding cases who were out of town during the summer vacation season. Experience has shown, however, that it is perhaps the most constantly and widely used of the whole series, serving as a means of keeping us definitely informed as to the details of feeding cases which hardly need to be seen, and yet are not well handled by telephone conversation, unaided by some such device. With this blank on the desk before one, filled in and mailed to the office the day before by the mother, a telephone consultation becomes a very real, definite, and satisfactory transaction, of value to the party at either end of the wire. With this satisfactory experience behind him, the writer was rather pleased, the other evening, to run across these words of confirmation of his course, in the Revised Version of the Pediatrician's Holy Writ, to wit, the 1918 edition of Holt and Howland:

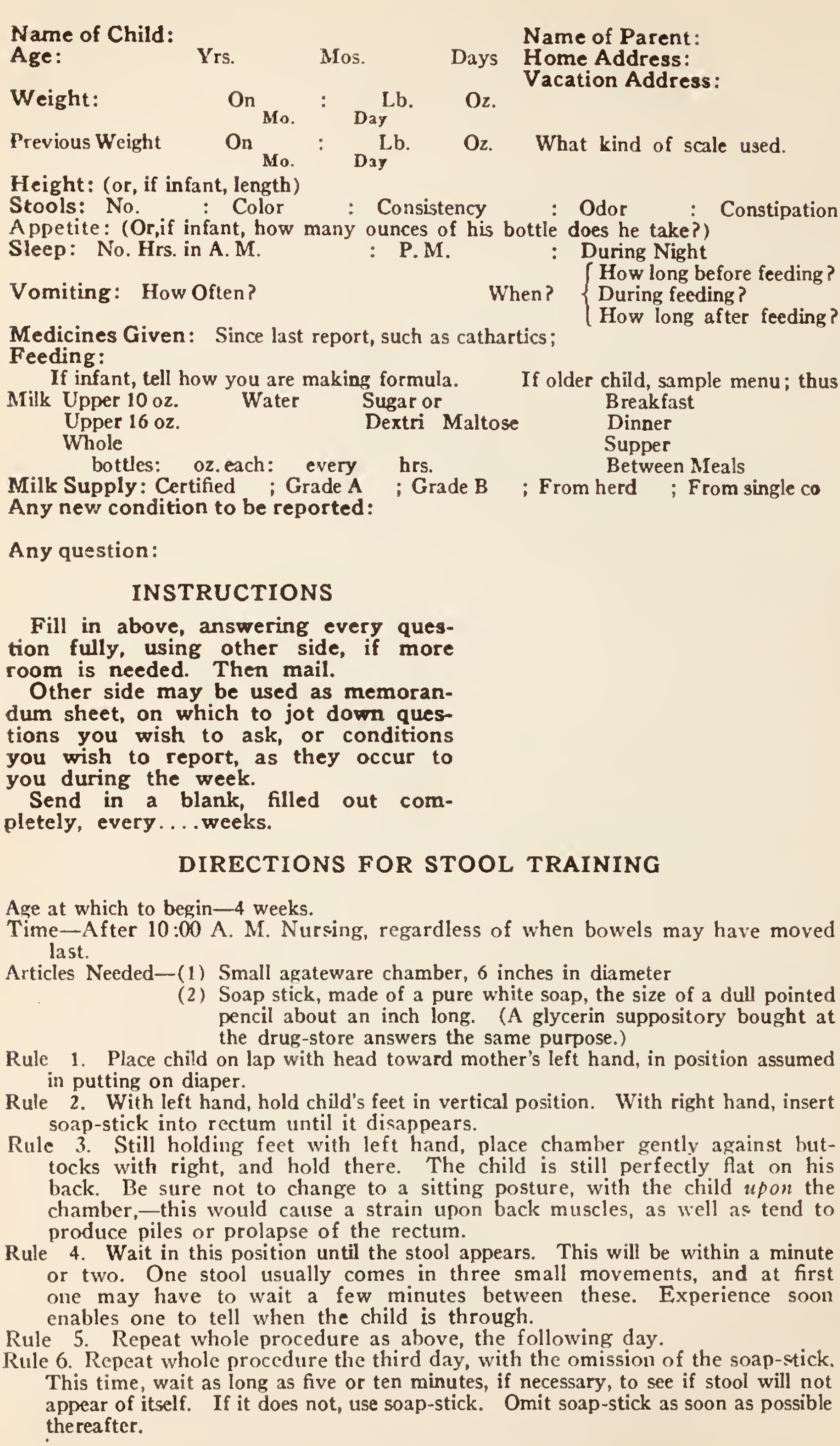
"Attention to detail is most important. Much of the want of success in infant feeding is due to the failure of the physician to keep in close touch with the case * * * Still later, monthly reports but with regular reports in writing should be continued * * * An excellent plan is to furnish the mother with a printed form containing the questions to be filled out and returned. The weekly report should cover the following questions, viz:

1. Weight: gain or loss since last report.
2. Stools: frequency and general character.
3. Vomiting or regurgitation: when and how much?
4. Flatulence or colic?
5. Appetite: Is the child satisfied? Does he leave any of his food?
6. Is he comfortable and good natured and sleeping well?
7. The formula of the food now given: quantity and frequency of feedings."

A cursory glance will show that all these points are covered by this slip.

Then come the other leaflets,—many of them so far conspicuous by their absence, and being prepared from time to time as the need for a discussion of various questions in this concise form makes itself felt. The three here given are fair samples of the sort of treatment given the topics taken up. That on "Stool Training" (Fig. 6), is the outcome of some rather painstaking personal work, and sets forth some new wrinkles as applied to this very old subject. That on "Care of the Skin" (Fig. 7) is a veritable rehash of what has been written, time and again, in every little compend on infant care ever gotten out to boost a particular children's man. That on "The Bath" (Fig. 8) occupies middle ground, and is an attempt to simplify an important part of the necessarily tedious business of child-culture,—at best rather a wearisome grind, and one from which it seems only fair to eliminate as much of the unnecessary as is possible in the interest of both mother and child. These three give a fair idea of what we are trying to accomplish by means of these leaflets. Tracts—sermonettes—tabloid truths (or if you prefer, officious opinions),—call them what you will,—they have proven most effica-

FIG. 5



VACATION REPORT

Name of Child:
Age: Yrs. Mos. Days
Weight: On Mo. : Day Lb. Oz.
Previous Weight On Mo. : Day Lb. Oz.
Name of Parent:
Home Address:
Vacation Address:
What kind of scale used.
Height: (or, if infant, length)
Stools: No. : Color : Consistency : Odor : Constipation
Appetite: (Or, if infant, how many ounces of his bottle does he take?)
Sleep: No. Hrs. in A. M. : P. M. : During Night
Vomiting: How Often? When? How long before feeding? During feeding? How long after feeding?
Medicines Given: Since last report, such as cathartics;
Feeding:
If infant, tell how you are making formula.
Milk Upper 10 oz. Water Sugar or
Upper 16 oz. Dextri Maltose
Whole
bottles: oz. each: every hrs.
If older child, sample menu; thus
Breakfast
Dinner
Supper
Between Meals
Milk Supply: Certified ; Grade A ; Grade B ; From herd ; From single co
Any new condition to be reported:

Any question:

INSTRUCTIONS

Fill in above, answering every question fully, using other side, if more room is needed. Then mail.

Other side may be used as memorandum sheet, on which to jot down questions you wish to ask, or conditions you wish to report, as they occur to you during the week.

Send in a blank, filled out completely, every. . . .weeks.

DIRECTIONS FOR STOOL TRAINING

Age at which to begin—4 weeks.

Time—After 10:00 A. M. Nursing, regardless of when bowels may have moved last.

Articles Needed—(1) Small agateware chamber, 6 inches in diameter
(2) Soap stick, made of a pure white soap, the size of a dull pointed pencil about an inch long. (A glycerin suppository bought at the drug-store answers the same purpose.)

Rule 1. Place child on lap with head toward mother's left hand, in position assumed in putting on diaper.

Rule 2. With left hand, hold child's feet in vertical position. With right hand, insert soap-stick into rectum until it disappears.

Rule 3. Still holding feet with left hand, place chamber gently against buttocks with right, and hold there. The child is still perfectly flat on his back. Be sure not to change to a sitting posture, with the child *upon* the chamber,—this would cause a strain upon back muscles, as well as tend to produce piles or prolapse of the rectum.

Rule 4. Wait in this position until the stool appears. This will be within a minute or two. One stool usually comes in three small movements, and at first one may have to wait a few minutes between these. Experience soon enables one to tell when the child is through.

Rule 5. Repeat whole procedure as above, the following day.

Rule 6. Repeat whole procedure the third day, with the omission of the soap-stick. This time, wait as long as five or ten minutes, if necessary, to see if stool will not appear of itself. If it does not, use soap-stick. Omit soap-stick as soon as possible thereafter.

Rule 7. After each nursing except the night one, place the chamber against the buttocks, and wait several minutes, to see whether there may not be either a small stool or a urination. (This is an important first step in training the child for urination).

Rule 8. Whenever child is restless and fretful during a nursing, stop and attempt the training. This will give a breathing spell, and will frequently make him resume his nursing with a better appetite.

Rule 9. If possible, always train while child is quiet. Good results cannot be obtained while child is crying.

Rule 10. Remember that for the first few weeks the training requires patience and perseverance. The results, however, repay one a thousandfold. Soiled diapers are done away with by the end of the second month of this training; and the baby is started on a lifetime of regular habits, with the constipation bugbear forever completely eliminated.

cious in driving home the sort of thing that one says over and over again in the office, and hopes may (but sadly fears will not) be taken to heart by his listener. An appropriate one,—at most, two,—may be given at any office visit, on the principle that whereas one or two may perhaps be read and at least partially digested by a busy mother, a whole book, simple though it were, would probably be not more than glanced at once or twice. And a sermonette in the head is worth a whole barrelful on the shelves or between the covers. Additional leaflets added from time to time at the psychological moment, to solve problems just met with and still a source of perplexity, are seldom denied at least one reading,—oftener than not, they are treasured and worn by frequent perusal. There is nothing new in the idea,—the Urological Clinic at the Brooklyn, and the Children's Clinic of Bellevue O. P. D., to single out but two well-known instances,—have carried out the idea to a far greater length than this. The only advantage of the present scheme consists in the employment of a standard size sheet, and an inexpensive cover or binder, so that a mother is gradually building up a book on child-culture "made to order" for her special needs and for her special child, as those needs have developed. It is reasonably fair to assume that she will know her book from cover to cover, obtained in the way that it has been. And whether or not you deem it all truth, at least you will admit that it has brought her into closer touch with the ideas and the hobbies of the man who is treating her child,—a most desirable consummation, where so much of the physician's result is to be obtained solely as a consequence of an implicit following out of the details that he has ordered.

We have yet to devise an altogether satisfactory system of graphic chart, to show progress along other lines as the weight chart* does in its particular province. I shall be greatly pleased if the discussion, which I hope you will think this paper warrants, produces some helpful suggestions along this line. For the present, my own rather makeshift solution of the difficulty is to paste blank sheets to form a prolongation of the report sheet, with its various headings, whose successive columns, under successive dates, can be used to show gain or loss along the various lines indicated. This I consider a most important part of the whole plan of education and encouragement; for it constitutes an index, to the parent, of the relative success or failure of what is being done to improve the condition of the child.

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*An ordinary stock temperature chart with pounds and ounces written in over degrees and fractions has proven preferable to the stock weight chart, for obvious reasons.

Fig 7

CARE OF THE SKIN.—The best care for a normal, healthy skin consists in the daily bath. This does not include the scalp, which should be washed weekly during the first year, and every two to four weeks thereafter. The bath is to be followed by a brisk rub, first with the towel and then with the bare hands. Powder (an unscented talcum) may be used sparingly where skin surfaces rub together (creases around the neck, under the armpits, in the groins, in the fold between the buttocks, around the scrotum, and back of the ears).

Bad Buttocks, irritated by soiled or wet diapers. Always change diaper the moment you notice that it is soiled or wet. Wash the inflamed parts thoroughly with a saturated solution of borax (made by throwing into a basin of warm water as much ordinary borax as will dissolve—the exact proportions are unimportant). This alone may suffice to effect a cure. If not, smear reddened areas with 2% ammoniated mercury ointment and then powder copiously with talcum, allowing any excess to lie in the diaper.

Intertrigo, inflammation of portions of the body where skin surfaces rub together. The same treatment as for bad buttocks, omitting the ointment, as the surfaces are too moist already.

Milk Crust, (Seborrhea) a yellowish scale or crust that sometimes appears on the scalp. Apply a light coating of olive oil or sweet oil to the scalp on two successive nights, tying the head up afterwards with a large handkerchief folded diagonally and knotted over the forehead. On the following mornings, remove the handkerchief and shampoo the head thoroughly with warm water and a good white soap. Do not attempt to pick off any of the crust with fingers, toothpick or comb. For a few nights thereafter, apply 2% ammoniated mercury ointment lightly to the scalp.

Prickly Heat, (Miliaria) usually the result of too much perspiration, induced by clothing the child too warmly, although in extremely hot spells it may occur even in children who have gone almost completely unclothed. The prevention of this, of course, consists in avoiding overclothing the child. The best indicator as to the amount of clothing needed is the warmth of the hands and feet. If there is too little clothing, these will be cold. If there is too much, the child will sweat excessively. Another preventive is the free use of talcum powder. The child may be bathed frequently with a soda bath (two tablespoonfuls of baking soda—bicarbonate of soda—to the gallon of warm water); or immersed in a bran bath (a common salt bag half full of bran thrown into a tub of warm water). After either form of bath, cover plentifully with plain, unscented talcum powder.

Hives, (Urtricaria). Free doses of a mild cathartic, followed by a milk diet for a day of two, until the wheals subside (unless milk is the offending food, as sometimes happens, in which case feed only cereal gruels for a day or two). Try to find out what food it was that caused the condition—and then avoid it in future.

Sores about the mouth and cheeks, (Impetigo) with yellow scabs and crusts. Remove scabs and crusts by washing *once* with warm water and white soap. Then keep the parts greased with 2% ammoniated mercury ointment, applying it half a dozen times a day, or more, if necessary, until sores are completely cured, and their place has been taken by healthy skin. This condition is contagious—therefore keep other children away.

The Itch, (Scabies). An intensely itching, contagious affection, caused by the tiny "itch mite," that burrows beneath the skin and deposits its eggs in the burrows it has made. Let the child soak for half an hour in a tub of hot, soapy water, scrubbing him meanwhile with a handbrush. Then, after drying him, smear every bit of affected skin with a five per cent. sulphur ointment, repeating the application night and morning for from three to five days, according to the severity and extent of the disease. Dress him in clean night clothes and underclothes. These soon become impregnated with the yellow ointment, and, although they look filthy, constitute a useful adjunct to the treatment. At the end of the period, give a second hot water and soap scrub and soak, and the cure should be complete. To prevent recurrence, as well as to keep others in the family from getting it, every article that comes in contact with the skin of the child should be boiled for ten minutes. This includes underclothing, stockings, collars, nightclothes, bedclothes, gloves, towels and handkerchiefs.

Fig 8

THE BATH

Every child should, if possible, have a tub bath, beginning with the day the cord drops off (about the end of the first week of life).

Time: For infants, before nine or ten o'clock feeding. For runabouts, just before bedtime.

Place: Either the nursery or the bathroom.

Temperature of the Water—For a young infant, body temperature (98°). This may be gradually lowered to 90° during the first year, and lower yet later on. Of the room—Not specially heated. Ordinary room temperature, with quick undressing and dressing, is far safer than the overheated room commonly employed;—"taking cold," which occurs when the child is removed from such a room to anywhere else in the house, is thus guarded against.

Utensils: 1. Small foot-tub on a low table; or, collapsible rubber tub on wooden frame (that called the "tub within a tub" is the best).

2. Castile soap.
3. Washcloth—best made of an old linen table napkin.
4. Soft linen hand-towel, to wipe the baby with.
5. Large turkish towel, to wrap him in, on removing from the tub.
6. Bath apron, or lap mat.
7. Talcum powder (plain, unscented, is the best).

Method: Immerse the baby in the tub, supporting his head with the left hand. An older child may sit up in the tub.

Rub briskly with the soaped washcloth. Do not soap the child before placing him in the tub, nor allow the soap to remain in the tub during the bath.

The scalp is best washed while the baby lies on his back in the tub, as thus the soapy water can be kept out of his eyes. If preferred, however, it may be washed and dried either before or after tubbing. Once a week for babies, and every other week for runabouts, is often enough for this.

While the water is running out, after the bath, let the cold water run, and splash three or four handfuls over his neck and chest, rubbing briskly. Remove child to the lap, over which has been spread the thick turkish towel,—wrap him at once in this, rubbing him dry at first with this, and finishing with the soft linen towel. The bath apron or bath mat protects the mother. Dry thoroughly but rapidly, then rub the body vigorously with the bare hands for a moment, using a little talcum powder. Dress as quickly as possible, and one need have no fear of the child's "taking cold" in a room of ordinary house temperature.

Cautions: Do not wash out the eyes with boric acid solution, unless discharge is present. In that case, a doctor should be consulted.

Do not poke cotton-tipped toothpicks into nostrils or ears. A soft cloth is the only safe implement for either. Attempts to remove "ear wax" with toothpicks or "earspoons," are especially dangerous.

Do not swab out the mouth with boric acid solution on cotton wrapped round the finger, as was formerly done. If the mouth is in healthy condition, this is unnecessary, and may even injure the delicate lining membrane. See "Care of the Teeth" for treatment of the mouth after the teeth begin to appear.

The arresting question which always comes sooner or later in a discussion such as this, to give us pause, is, "But is it practical?" Or is this "all in your eye," cooked up for the occasion? Granting that it is desirable, is there time, in the twenty-four hours of the day, to accomplish all this? And just what sort of equipment is needed for it, if one were to desire to do it?

The first and foremost essential, I should say, is a good, hand-picked, personally trained office assistant,—what such a person can do in the way of lifting routine work from one's shoulders is veritably enormous, as you know. If she be twins, with one half of her stenographically trained, and the other half leaning toward the nursing persuasion, so much the better. System will cut down the time and effort required enormously. I venture the statement that half an hour's systematic work will suffice to cover the ground that I have sketched out, very passably, if not indeed thoroughly; and one surely would not begrudge that much time to the consideration of a new surgical case, or of a problem in internal medicine. It means team-work, of course, with dressing, undressing, weighing, measuring, record-writing and direction-typing done by mother and assistant; but the conception and perfecting of team work is the pleasure of the practise squad,—its execution, the joy of the varsity eight or eleven in action.

The work of checking up progress, outlining further measures, and initiating the steps in preventive medicine that we have hinted at, in passing, ought to be covered satisfactorily in revisits of not over fifteen minutes' length, for routine cases. This allows of dividing one's office working time very conveniently into quarter-hour periods, allotting two periods to a new case, (more, if desirable), and one to the ordinary revisit. The use of a leaflet setting forth simply and briefly what protective vaccinations are, such for instance as those issued by some Departments of Health, may greatly simplify the obtaining of Schick test, typhoid inoculation, or diphtheria protection (in the form of mixed toxin-antitoxin treatment). A Pirquet or a luetin will take but a moment. An animal protein or pollen sensitization test may easily be compressed into a fifteen minute revisit. Even a Binet-Simon, if one's material is kept ready for instant exhibition, may be satisfactorily accomplished in this short time.

Another practically indispensable item is a second examining room or space, in order to eliminate that heartbreaking consumer of time, the wait for the undressing and the dressing of the child, while the physician sits idle and, as a rule, fuming with impatience to get on with the next case. A permanent wooden screen, such as is commonly used in dentists' offices to separate two dental chairs, has in my own case proved a most satisfactory way of obtaining two cubicles, equally well-lighted, and equipped in duplicate with examining table, chair for the mother, and instruments commonly used. Bulkier apparatus, which could not easily be available in duplicate, such as scales, measuring apparatus, etc., can be used in common for the patient in either room, by being placed in the open free space adjoining the cubicles. Some such time saving arrangement as this is practically indispensable if one is to keep to such an office schedule.

If one can screen off somewhere a small space with a desk for his assistant, much of the routine questioning that goes to make up an adequate history may be satisfactorily covered by her, thus saving another considerable fraction of time. The history sheet then comes to one partially filled out, and requiring but the special leading questions that one desires to ask in order to follow out the lines that he wishes to explore, without wasting his time on work that can be done quite as well by a clerical worker as by a physician. A bright office assistant can be trusted to handle this part of the work must tactfully, if she be of the proper type to begin with, and is then carefully instructed. This is mentioned simply as another step in the attempt to multiply the efficiency of the physician by relieving him of clerical work that can be done quite as well by someone else.

Another most desirable adjunct is a small room or partitioned-oft space, in which one can talk to the mother undisturbed either by the child, or by what is going on in the workroom. Here one can read over to her, or have her read to him, the typewritten directions given her, commenting on and explaining them to her the while. If the child is an infant, it should be left outside with the nurse for these few moments. Experience has taught us that an attempt to treat the runabout child the same way, always means simply riding for a fall. So we have taken a tip from child psychology, and equipped the end of this confidence chamber farthest away from where the mother is to sit, with the most fascinating objects of interest that we could find,— which were, of course, those that had stood the acid test of inspiring continued interest in our own nursery. A few Montessori cylinders, buttoning frames, and metal insets, a set of tiny mountain furniture light enough to be lifted and moved about easily, and a particularly fascinating representative from the Humpty Dumpty Circus, never fail to arrest the attention of the child who enters the sanctum,—and give us more than the necessary few minutes of conference with the mother that we need in order to drive home what we may want to impress upon her.

We have read much, of recent days, in the Journal of the American Medical Association especially, of the requirements that should be demanded of the practitioners of various specialties,—eyes, ear-nose-throat, ect. The respective sections have considered the matter at some length. Perhaps this paper should not close without at least touching upon the question as it concerns the field that we have tried to map out. What can fairly be demanded in the way of preparation for this sort of work? The question seems an eminently practical one, in view of the fact that postgraduate teaching of the specialties is already being done on this side of the river; and must increase enormously, as soon as the plans for making the metropolitan district the teaching medical center of the world begin to be put into effect, unless we are to lag hopelessly behind the rest of the greater city.

I think that we can reasonably ask for an average familiarity with the newest and best thought in that part of the great body of internal medicine set apart under the heading Pediatrics. Then at least a bowing acquaintance with half a dozen of the special branches would seem essential,—enough, that is, to enable one to detect defects in his patients referable to the various systems, and to allocate them to the proper agencies for their correction. Such allied branches are dentistry, orthodontia, ophthalmology, ear-nose-and-throat, speech defects, mental retardation, (at least to the extent of administering and interpreting a Binet-Simon or a Terman), and, of course, orthopedics. All these, or most of them, could be given the graduate student in Pediatrics along with the fourth year medical students, at least to the extent of the smattering of the specialties that we attempt to give the undergraduates in their last year. He must pick up for himself, by actual experience in his own locality, and by sedulous visiting and "mixing," the special virtues and the special shortcomings of the different public and private schools, as well as of those special schools designed to meet special conditions. He should be familiar with the general principles of the Kindergarten and of Doctor Montessori's newer educational methods, as well as with other educators and their work. He should know Boy Scout leaders and the special characters of the troops in his vicinity,—should be on terms of friendship with Y. M. C. A. workers and familiar with their equipment,—should have a working knowledge of the strong points and the limitations of social workers and social agencies. Much of the education of mothers along the lines that we are speaking of is being carried on today in the monthly periodical press; for instance, Emerson's work can be understood perhaps better by a reading of the August, September, and October numbers of the Woman's Home Companion, than by hunting through the files of the medical library; so that at least an idea of the help that he can get in this way may fairly be demanded of our pediatrist.

A discouraging prospect, do you say? Yes, indeed,—unless a vision of the opportunity for service is not so wonderfully stimulating as to cause us to forget the inadequacy of our preparation for the task, and think instead in terms of the help we may bring to a younger generation, to do the things that we of this generation can never do, and be the men and women that we can never be, just because in our childhood this conception of preventive and corrective medicine was but an isolated dream. It is for us who are making children's welfare our lifework, to be among the foremost of those who are bringing this dream down out of the clouds ,and making it a definite, concrete program of betterment, all over this broad land of ours, and in the countries overseas. Is not the prospect, rather, an encouraging one, stimulating us to be constant seekers after the newest, only where the newest is the best; making us hold ourselves ever ready to reject previously treasured tenents, and embrace newer and better concepts in this as in all other of the divisions of that great art that we profess and practise?

THE BENEFICIAL EFFECTS OF EXERCISE ON HUMAN HEALTH AND DEVELOPMENT.

W. E. Rawlins.

Brooklyn, New York.

"Health is the vital principle of bliss, and exercise of Health."
Thompson.

THIS subject is one of vital importance to young men and women who live in large cities, and whose occupations keep them indoors, in office, store, factory, or, as the case may be, employed at sedentary work. No one will question the beneficial effects of exercise wisely taken or prescribed, with a view to the requirements of the individual; but here arises the point, for any agent, powerful for good, may, when overdone or used unwisely, be also productive of harm.

The amateur starts in at once to develop large muscles, but strength of muscle is not health. The vital organs are of much greater importance.

Professor D. H. C. Wood, of the University of Pennsylvania, says: "To make it possible to live to a good old age, the several vital organs must be approximately equal in strength." The man of ordinary physique, who possesses this fortunate balance of power will, in all probability, outlive an athlete whose development has been unequal. Excessive strength in one part is, in fact, a source of danger. All over developed muscular system invites dissolution because it is a constant strain upon the less powerful organs, and finally wears them out. Death, in the majority of cases, is the result of local weakness. It often happens that a vital organ has been endowed with an original longevity less than that of the rest of the organism, and its failure to act brings death to other portions of the system, which in themselves possess the capability of long life.

Doctor Sargent says: "The object of physical training is not to make men strong and active, as much as it is to make them healthy and enduring." Perfect health implies a condition in which all parts of the body are properly nourished and harmoniously developed, in which the vital organs are sound, well balanced, and capable of performing their functions to the fullest extent. The researches of the physiologists have shown that whenever a certain organ or class of organs become relatively too large or too small, causing a want of balance or harmony in their action, there is, in every case, a far greater liability to disease.

It is in imperfect, ill balanced organizations that we find the greatest number of incurable diseases. It is the weak spots, caused by inheritance, acquired by exposure, close confinement, overwork, etc. that invite disease and death, even though the rest of the system be in perfect condition.

To attain a perfect structure, harmony in development and a well balanced organism is our principal aim.

Now, in our attempts to improve the human form we require a physiological standard of health before us, so that we can more readily find weaknesses and defects.

Professor Huxley has defined the constituent elements that compose a perfect human body. It describes exactly not only all of its principal parts, but what supplies it must have from day to day to preserve it in a healthy state. This table reads as follows:

A full grown man should weigh 154 lbs. made up thus:

	lbs.
Muscles and their appurtenances	68
Skeleton	24
Skin	10½
Fat	28
Brain	3
Thoracic viscera	3½
Abdominal viscera	11
Blood that would drain the body	7

This man ought to consume per diem.

Lean beefsteak	5000	grains
Bread	6000	"
Milk	7000	"
Potatoes	3000	"
Butter	600	"
Water	22900	"

His heart would beat 75 times a minute, and he should breathe 15 times a minute. In 24 hours he vitiates 1750 cubic feet of pure air to the extent of 1%. A man, therefore, of the weight mentioned ought to have 800 feet of well-ventilated space; he should throw off by the skin 18 ounces of water; 400 grains of solid matter, and 400 grains of carbonic acid every 24 hours, and his total loss during the 24 hours would be 6 lbs of water, and a little above 2 lbs. of other matter.

It is easy to see the ill effects of a one-sided development. If we look at the work of the Greek sculptor, where he shows us the winners of the Olympian games, these men of marble represent the absolute perfection of human form. There was no one-sided development. I will give two examples of the one-sided development. 1st: Look at the trapeze performer; you cannot but see that he is built from the waist up. He is exaggerated in form. The balance of vigor is all above, and nothing below. His back is good in breadth, but it is rounded, there is too much dorsal curvature. As you pick him to pieces, you will find that his front developments are not as nice as you would have expected. The arms, the shoulders *are superb.*

Next take the bicycle rider; he is just the reverse. He is all nice enough from the waist down, but next to nothing from the hips to the top of his head. You will find an ugly curvature acquired by the clutch at the handle of the machine, a restricted muscular development of the shoulders and of the upper arm, but the legs and thighs are uncommonly good. All the power of this man is below his waist.

Dr. Lagrange lays down the following conditions as the causes of physical deformity:

1st—Concentration of muscular effort in a very localized region, the other parts of the body not sharing in the work.

2nd—Necessity of maintaining during the exercise an attitude in which the axis of the body deviates from its normal direction.

3rd—Frequent and prolonged performance of movements which man does not naturally practice, and to which his conformation is not adapted. Regular form—not here or there—but all over the body, should be the object of the teacher of gymnastic exercise.

In the Journal of Anatomy and Physiology, Dr. Carson makes this statement: that by the actual measure of the skeletons of 70 persons 10% showed right and left limbs of equal length, and of those only two cases in which the femur and tibia of one side corresponded respectively to the femur and tibia of the other. In 35.8 per cent the right limb was longer than the left. The average preponderance of the former over the latter being 3.3%. It will be interesting here to give a few of the common imperfections caused principally by muscular contraction not organic; that is, they do not include diseases of any internal organs. Right shoulder lower than the left, caused by over-development of the right side. Uneven shoulders, and a lateral curve in the spine, caused by resting the weight of the body on one leg. Drooping head and flat chest, prominent abdomen, projecting hips, right shoulder blade too prominent in right-handed people. Sloping shoulders, etc. I find generally abdominal muscles weak. Flexors of forearm and upper arm better developed than extensors of same arm. Extensors of leg and thigh better developed than flexors; adductors of thigh better developed than abductors; right arm stronger than left; left foot stronger than right. This is explained by the law of development,—use strengthens a part, while disuse causes loss of power and size; or, in other words, causes atrophy. In ordinary life, incorrect positions and unequal use of the different muscle groups cause these defects. We can easily remedy these defects by special exercises and deep breathing.

Dr. Emerson says in his work on Physical Culture: "No exercise should be given until the organs are given their proper position." Any exercise taken when the vital organs are not in the proper position is harmful to those organs. Correct methods of standing, sitting and lying, are of great importance. The heart beats with a more perfect rhythm when lifted high in the chest than when it is low. When the vital organs are high, the lungs consume more air, the stomach properly secretes gastric juice, the liver secretes bile from the blood, the alimentary canal is healthy in the production of what are called "peristaltic waves." The moment these vital organs are lowered from their normal altitude, that momen their tone is lowered. There is no physical defect that is so general as this, that the vital organs are from one to four inches too low for adults, and among children, down to the age of five or six years. Before this time the vital organs are high. All physiologists will agree that no vital organ below its normal altitude can perform its function properly.

The muscles are the master tissue of the body, says the leading physiologist of the day. They are such by reason of their great preponderance in weight; of the abundance of energy of which they are the normal instrument; of their overwhelming importance in the battle of life, as regards its exterior purposes, no less than for the interior uses to which they of necessity contribute, and of the utter dependence of every other function, including that of the nerves, upon their proper and adequate use.

The wide distribution of muscular tissue throughout the organism not only emphasizes their importance, but greatly facilitates the restoration of preponderance when this is lost. The fleshy parts covering the skeleton and rounding out the exterior, are chiefly muscular. The blood vessels permeating the flesh everywhere, from the heart to the minutest capillaries, are muscular, with non-essential exceptions, where muscle is replaced by elastic tissue, or other mechanical equivalent: the digestive tube, whose service, like that of the circulatory vessels, knows no remission, is muscular throughout its whole extent. The respiratory apparatus introduces oxygen, and expels carbonic acid by muscular action; while secreting glands and surfaces are in express relations with muscular parts, on whose action they closely depend. The nervous system is no exception to the physiological rule of intimate dependence upon muscle. Nerves have very little power to control, and especially to supply their own nutritive support, without which their function must at any moment cease. Not only is the blood supply for nervous nutrition and waste provided by muscular action, but it is a principle in physiology of the utmost importance, as bearing upon the therapeutics, that muscular action is demanded as the constant physiological counterpoise of nervous action; without the former, the latter runs an uncontrollable and destructive race, certain to ultimate in serious disease, whose treatment, without a knowledge of remedial effects, secured through motion, brings medical skill to its severest test. Physical culture is as much thought of in these days as mental training. As the world grows older, people begin to see the importance of bodily exercise. Today any first class college is incomplete without a well equipped gymnasium. We find, also, in every first class club the bath, gymnasium, and bowling alley as indispensible features. But more important than the mechanical additions to the science of training the body, is the gradual and increasing interest in such matters by the medical profession, who have at last reduced the treatment of disease by exercise to a direct science, founded on the latest investigations in physiology and anatomy.

The best physicians today do not say to the patient—"simply take exercise" and leave it to his discretion to kill himself, or otherwise, by unsuitable and harmful exercises, unsuited to his condition, but turns him over to the specialist, who will carefully prescribe the amount, kind, etc., suited to his malady. Motion is the great law of the universe. It is the first instinct of animal life. When it ceases, life ceases. The degree of life may be measured by the amount of normal motion. When the life forces run low, the natural and most effective method of invigorating those forces is found in motion.

R. T. Trail, M. D., says: "Exercise is as essential to development as air is to life." No person can acquire large, compact, muscular organization without it. By an irrevocable natural physiological law, growth of brain and body is acquired by exercise. Look at the hand of the laboring man or woman, and how vast the difference in the size and strength of the two classes. The same law holds good respecting the lungs and other vital organs.

There is one more point that I would call attention to. Few things worth doing can be done suddenly. Certainly no change in the human body can be so accomplished. All the changes wrought in that are gradual, accumulative and regular; and the agencies which produce the changes must also be gradually and regularly applied.

THE HOSPITAL INTERNE

Robert E. Coughlin, M. D.

Brooklyn, New York.

IN all probability the hospital interne was created because of necessity. No one appears to know how or where he originated. Probably the first hospital had no interne. As time went on it appeared wise to have some medical represenative close on hand for the sick and injured. Under the present conditions the hospital interne is absolutely indispensable. He is possibly a more important part of the hospital machinery than is generally realized. Depending upon the point of view he occupies an exalted or a subordinate position. He occupies an intermediate position between the hospital management and the visiting staff on one side and the nursing staff on the other.

First let us consider the question from the standpoint of the boards of directors or the governing body. Second from the view point of the visiting staff. Third from the standpoint of the interne. After considering these different points, we may come to a conclusion as to a mode or plan to obviate existing evils.

(Read before the Hospital Surgeons' Association, January 9, 1917.)

From the viewpoint of the board of directors the interne is regarded in the same way as a student taking a post-graduate course. They believe he should command respect as any graduate of medicine should. In their minds he is in the hospital to learn and serve. His service is indespensable for the reason that he has made it so by his work in the past, and because the visiting staff so regard him. The opinion obtains that the average interne is pushed away during the time of the operation, and during the time subsequent to the operation or the post-operative period he is delegated too much responsibility as regards the patient's welfare. Their criticism of him would be that he is overbearing to the other inmates of the institution, that he is too jealous of his degree of Medical Doctor, that he dominates the rest of the working staff in the hospital, that he is up on his dignity at all times, that he draws his lines of duty too finely, and that there is little reciprocity between the different members of the interne staff. In other words, there is little elasticity, little give and take.

From the viewpoint of the visiting staff, the hospital interne is considered all the way from a useful adjunct to a necessary nuisance, according to the personal equation involved. The truth must be told that as a rule the interne is regarded more in the light of a worker or helper. A certain amount of work is to be gotten out of him as per orders of the visiting staff. Histories are to be written, preliminary examinations to be made, preparations for the operative procedures, etc. It is rarely that an interne is regarded as a student. At the time of the operation he is seldom taught the technique or steps of the operation by the operator. When the operator talks, he talks to his first or second assistant, or to the spectators, never or hardly ever to the one man at the operation who is giving all his time and attention to the pursuit of learning. After the patient is on the table, the interne is pushed aside in favor of one, two or more assistants. After the operation the patient is again on his hands for post operative dressings and care. Even at this time he is given scant instruction by the visiting staff, to the detriment of the patient's chances for recovery. On the medical side the medical attendant, while he insists upon having the interne make the rounds with him, gives him scant attention during his rounds. It is seldom that he takes the time to instruct him on the different interesting points in the case record. Many times the nurse is addressed in preference to the interne, which of course is a rank discourtesy to him. When all is said and done, we must be forced to the conclusion that many evils of the interne system can be attributed to the sins of commission and omission on the part of our visiting hospital staffs. They are responsible for the existence of the interne in the first place, but their paternal interest in the interne is not in proportion to the responsibilities imposed on the interne during critical times when the patient's life weighs in the balance as often happens after an operation has been performed, or during the crisis of a serious illness. It is in the power of any visiting staff to awaken and keep alive intense enthusiasm in the interne. He will be the willing worker at all times, but the visiting attendant must have and show enthusiasm before he can inject it into others. He must also show a particular interest and regard for his house surgeon or house physician. Until this condition of affairs obtains we shall always have the problem of the interne question to solve.

From the viewpoint of the hospital interne we can do no better than to quote from an article in the Southern Hospital Record for July by Dr. Emory Park, who speaks a few words on behalf of the resident physician or interne. Some of his statements should be quoted and applauded: "The hospital should not demand that the interne write all the histories and do the other detail work and then step aside when the operations are performed, and let some outsider be the assistant at the operation." "Some hospitals let inconsiderate members of their visiting staff call residents away from their meals or let them set their opera- choke it down in hunks." "They should be well fed and provided with clean, comfortable rooms and bathrooms."

In an editorial comment on this particular article, the New tions at that time as will make the interne either miss a meal or York Medical Record of October 21, 1916, states as follows: "Internes seldom receive any money except in some instances a nominal sum. The tacit arrangement in vogue is in the nature of a fair exchange. The hospital receives service which is in reality indispensable, each patient is visited once, twice, or more times a day, routine dressings are done and the feeling is that the patients are protected, that there is for twenty-four hours a day a staff of trained men on guard, capable of interpreting symptoms and knowing when to call in the more experienced physicians. They may be likened indeed to the outposts of an army camp. They recognize danger at a distance, and it can be repulsed before it threatens the heart of the army itself, so the general sleeps more soundly in his tent, just as the famous surgeon is able now and then to take a week-end, knowing that Smith and Jones at the hospital will not have him called needlessly, but also that they will not let any of his patients die for want of attendance. In return for these services the interne expects and should receive experience, not the facility of inscribing 'Mag. Sulph. zi' in the order book until he wakes from dreams writing it in the air, not the holding of the surgeon's coat while he puts on a plaster cast, and not the bird's eye view of the operation as the third assistant, but the actual diagnosis and treatment of cases, the administration of anaesthetics, and the performance of operations. For each interne in his hospital each member of the visiting staff should feel the kindly interest which the old time preceptor had for his pupil.

"We do not favor the loosing of a recent graduate, full of theory, but deficient in practice, upon wards of helpless sufferers. But certainly the interne should have free scope with his stethoscope in the wards, and he should be allowed to give anaesthetics at first under supervision, but later alone, and there is no reason why he should not be first assistant at operations, and even do a large part of them himself.

"Many hospitals and diverse ideals of management pass before our eyes as the years go by. We have seen hospitals where anaesthetists were called in from the outside to serve in rotation to the exclusion of the resident staff, where each surgeon seemed to have always some protege whom he brought into operations to act as first assistant while the interne who had examined the case, prepared it for operation, and would later carry it through the miseries of the post-operative period, stood around and passed instruments. We have seen hospitals where the tip went forth to potential candidates that the food was bad, thus frightening away many a good man. Another where the doctors' home consisted of a ramshackle frame building, at which prospectve internes took one look and fled. As Dr. Park reminds us in his article the hospital interne is not only a highly and specially educated person, but he is a gentleman. He is entitled to treatment accorded a gentleman anywhere and, in addition to the full amount of consideration for which he gives his services, that is all the experience the hospital affords together with the advice and the oversight of the older men attached to the hospital staff.. The hospital period is probably the most valuable of the young doctor's training, if he is fortunate enough to get into the right sort of a hospital, and with a little friendly cooperation by those responsible for the management of the hospitals all of them would be made desirable in this regard."

The following evils of the interne system have presented themselves in the experience of the writer. The incidents referred to have happened within the last two years which makes them fairly up-to-date, and there is no doubt that such incidents happen at some time or another in the history of every working hospital.

One of the most annoying things is where an applicant is accepted in the Spring of the year to go on duty in December, or January. After several candidates have been told that there were no vacancies, a letter is received from the candidate who had agreed to wait until December or January, to the effect that he had changed his mind and had decided to take a position elsewhere where he thought the service was better.

Another instance may be mentioned where an interne had served eight months' service and then with very little notice deported to another hospital, where he remained a few months and later left this institution to finally finish his interneship at another institution. It was later discovered that he had "made" another institution, and served there for a time before starting in to do the work at the first institution where he had served for eight months and left with little notice. To make it explicit, Dr. A. "made" the Brooklyn Hospital, served there for a time, then agreed to serve the Norwegian Hospital for an eighteen months' service, but left at the end of eight months, going to the Kings County Hospital, where he remained for a short period, finally finishing at The German Hospital.

Another instance may be cited where both the house physician and surgeon, on acount of some trivial incident, packed up and left the hospital with the care of the patients entirely in the hands of the junior men. After remaining away for twenty-four hours, they saw the error of their way, and returned.

Another instance may be cited where the house surgeon left the institution entirely alone because it was his night out, the ambulance surgeon being out on call. It has been alleged that the same interne, when asked one night to take an ambulance call to attend an injured person at the nearest precinct, replied: "Not if he was Jesus Christ." At another time he told a ward patient to "go to hell," because she complained on account of his roughness. This interne was later told to resign, and to this day the interne committee have his intense enmity.

Another instance may be cited where all internes were out where there were four men on the staff, a surgical patient dying in the meantime, and the attending surgeon being called out of his bed to sign a death certificate, it being necessary to take the remains out of town for burial.

Still another instance may be mentioned where Dr. B. received his appointment at the Norwegian Hospital for an eighteen months' service. He remained three months, and left giving a few hours' notice. He went to Bellevue Hospital, but did not complete his course there.

The following is an example of "suggestions" made by internes, to the medical staff, as to how a hospital should be run, no allowances being made for repairs necessary in the construction of a new building.

November, 1915.

"We, the internes of the Norwegian Hospital, do respectfully submit the following suggestions:

"1. There are too few internes to do the work as it should be done. This means that we must spend so much time in routine work that we are unable to do any special work or to follow cases so as to get the most out of them. Study is impossible, because our time is so greatly filled up.

"2. That our Laboratory be placed in a working condition as soon as possible. At the present time it is in a state of chaos, and we cannot use it, except for the simplest examinations.

"3. That we do unanimously recommend the inauguration of compensation for internes.

"4. That our quarters be enlivened by some form of amusement, such as a talking-machine. etc.

"Doctors A., B. and C."

In October this year it occurred to the writer that a directory of the internes in the different hospitals similar to the army and navy bulletins might be printed in one or more of our medical publications and in consequence the following letter was sent to Dr. Claude L. Wheeler, editor of The New York Medical Journal:

Dear Doctor:

For some time past I have been trying to get up a clearing house plan for internes who are located in the different hospitals in greater New York. I have communicated with the superintendents of several of our hospitals and they appear to agree that something along this line is feasible. It has occurred to me that you might help out by publishing a directory in your journal giving the names of the present house staff in each of the hospitals, his length of service, when his service ends and who is to succeed him. One of your clerks could attend to this matter and I am sure that any of the hospitals would give you the information desired. As a business proposition I believe it might appeal to you as every recent graduate and interne begins to decide upon the medical journal to which he is to subscribe. A directory of this kind would appeal to him and would get him into the habit of reading your valuable journal. Such a scheme would in my opinion prevent internes from jumping from one hospital to another in the middle of their service as it would be generally known that they had signed up at a designated hospital.

Kindly acquaint me with your opinion in the matter at your earliest convenience, and oblige.

In answer to this letter the following was received:

Dear Dr. Coughlin:

Your letter of October 3rd presents a most interesting problem; one I do not feel I can pronounce upon at once. We shall be glad to take the matter under advisement, and if the directory of the kind you suggest did not occupy too much space, we could publish it once or oftener as circumstances might dictate. If any further suggestions occur to you, we should be glad to have them.

With regards, I remain

Very truly yours,
Claude L. Wheeler, M. D., Editor.

Dr. Wheeler's sudden death occurred a few days after the receipt of this letter.

In conjunction with the directory idea and hoping to get some ideas about the feasibility of a clearing house for internes the writer sent a communication to forty representative hospitals in Greater New York, after he had been instructed to do so by the Medical Staff of The Norwegian Hospital. There were eleven replies, about 25 per cent.

To recapitulate, the hospital interne has made himself absolutely necessary in the working of a modern hospital as we see it in operation at the present time, and that this condition of affairs has been brought about because the visiting staffs of our hospitals have catered to interne service. In all probability the hospital interne will continue to be a valuable adjunct in the running of our hospitals in the future and that he will be considered more as a student pursuing post graduate study than as a worker in our hospital machinery. Evidence goes to show that our visiting staffs do not so regard the hospital interne, hence the trouble which always ensues when the proper appreciation of conditions does not prevail. From the facts at hand our present internes do not take their appointments seriously. Their word as gentlemen should be as good as their bond and it should not be necessary to pin them down to written contracts, much as the same seems necessary at the present time. Eleven replies to forty inquiries on such an important question shows that our hospital managers are rather apathetic on the subject. It is evident that there is more interest in the subject in the borough of Brooklyn than in all the other boroughs combined. This may be because it is considered a borough matter as they have tried a similar scheme heretofore in Manhattan. Anything that will keep our young internes from jumping from one hospital to another and anything that will make it so that a candidate will not have to wait six or nine months to go on service will be welcome. To obviate the latter trouble it would be a good plan as has been practised in a few hospitals to make all appointments in the spring and thus do away entirely with appointments beginning in the late fall and winter. The ambulance work could be performed by the senior men, helped out by the juniors, for a certain number of days each service period. Hospital service would then be either one or two years as there does not appear to be any good reason for a sixteen and eighteen months' period of service.

Conclusions.

1. That the interne question is one of the most trying problems to solve today, related as it is to the nerve fibre of our hospital work and that the supply of good internes is not keeping up with the demand.
2. That it is very evident that the members of our visiting hospital staffs both individually and collectively do not take the proper attitude toward the hospital interne. In other words they fail to appreciate the real status of the interne, the visiting doctor who takes very particular pains to teach the interne being an exception to the rule.
3. The only proper attitude to assume as regards the interne is to consider him a student who is pursuing post graduate study.
4. That the position of hospital interne has much to commend itself for our consideration. The fact that the interne is such is proof that he desires to learn and appreciate his shortcomings, when it comes to the practical side of our profession. In this desire to learn he should be encouraged. On the other hand he should not draw his lines of duty too finely for the good of the hospital service and all concerned.
5. A central examining place, where all graduates coming up for hospital interne appointments within the city limits or borough limits could be examined by an examining board and candidates rated and appointed according to their rank, seems perfectly feasible.
6. A clearing house for hospital internes seems necessary.
7. A directory for hospital internes published in one of our local medical journals would be of material help.
8. Interne service in our hospitals should be either for one or two years and all appointments should be made in the spring of the year, service to begin at this time; half of the number of internes retiring or graduating as the other half lately appointed come on for service. The senior internes to be designated for ambulance service for a certain number of days and relieved when necessary by the junior men, thus complying with the rules and regulations of the ambulance service within the confines of the city limits.

FREQUENT CAUSES OF TEMPERATURE IN THE FIRST WEEK OF LIFE.

Herbert C. Allen, M. D. F. A. C. S.

Brooklyn, New York.

IT is not our aim or intent at this writing to cover entirely the subject of temperature found in infants during the first week but to study the cause and treatment of four of the most frequent that occur during that period. That temperaure in adults baffles our best efforts on many occasions we will all agree, to account for the same in infants during this early period of life and to give it proper care and treatment, will be conceded by all to be more or less difficult.

We shall try to name these four causes in the frequency of their observation from our experience:

First: Putrifaction and improper elimination of meconium.
Second: Starvation.
Third: Pneumonia.
Fourth: Trauma.

The idea that meconium is sterile may in some measure provoke argument as to its putrifaction, but can it remain sterile when the babe is in contact with external air and is swallowing saliva and water which is germ laden? The urine of a babe afflicted with such always shows a pronounced indican reaction which is positive proof that the absorption is gained from the intestine, furthermore, doses of castor oil from 15 to 30 M with soda bicarbonate irrigations 1 oz to the pint will clear up the temperature in a surprising short time to the satisfaction of all concerned.

That starvation causes a temperature none will deny, but why such is the condition can be explained in that, inanition not only causes fever with the rapid breaking down of tissue and loss of weight observed in these cases emphasizes the fact that if the toxemia is not early recognized, it may cause fatal result in the first five days of life. Babes suffering from this condition will violently and vigorously suck anything in reach especially the dry breast which is the cause of the trouble. The child is limp, skin hot and dry, and extremely restless and cries piteously, the well known "hunger cry." Artificial feeding by formula properly adapted to the age and needs, or a wet nurse will clear the cause in a few days, or will bridge over the time until the maternal breast milk shall be sufficient for the needy infant, if breast feeding is to be possible.

Pneumonia in the first week of life is not so unusual as it is unrecognized. How many babes have we seen with a fully developed pneumonia when the condition was never dreamed of by those in attendance because of the absence of the classical symptoms. The absence of the usual symptoms does not excuse in any degree the lack of careful physical examination of the new babe. When in doubt strip and examine in every known method. Too many serious conditions are overlooked because the child did not present the symptoms classed in the handy text book. Pneumonia is more likely to occur in infants during this period who for any cause have needed artificial respiration, from two causes: undue exposure of the child to a chilly room during the process of resuscitation, and let us suggest here that a child well protected by proper warmth during this period of artificial respiration will respond much more frequently and in less time than the child exposed to cold. Methods of resuscitation by which the child is unduly exposed are unnecessary and worse than useless and should be cast into the discard. The mechanical instruments used to cause inflation and deflation, if not very cautiously used and even in experienced hands may easily set up air vesical congestion that will result in consolidation.

The type of pneumonia most frequently observed at this time is the lobar type but the bronchial type is not to be counted impossible.

The specific treatment of pneumonia at this period or of any period of life in unknown; there is no specific medicine but individualization of every case will minister to the patient's especial needs, and your best experience will complete the treatment and your obligation.

Trauma includes all the injuries due to instruments, prolonged labor, excessive head moulding or accidents caused by version. These cases may show cerebral or spinal irritation, broken bones, ecchymosis, lacerations, and abrasions from forceps. The babe in this condition cries from actual pain on the least motion made either voluntary or by the hands of its nurse. If these lesions are not too deep the child will gradually become more tolerant to motion or being moved and gentle massage with some warm animal or vegetable oil is very soothing and beneficial.

These few observations are penned into paragraphs as a plea for better service to those whose lives are dear to the homes in which they are found, and for better service to them in illness. Happiness is a by-product and is priceless and without service there shall be no happiness. The reason we like children is that they are so natural. The reason they are so natural is because they are sure of their dinner.

THREE CASES OF MONGOLISM—A CLINICAL REPORT.

John H. Bailey, M. D.

Brooklyn, New York.

I HAVE here three patients exhibiting the symptom-complex that goes under the name of Mongolism or Mongolian Idiocy. During the last twelve months I have seen five of these cases from which I should imagine the incidence of this disease must be rather frequent. I shall touch upon its salient features only briefly.

By Mongolism we understand an affection characterized physically by the Mongolian type of faces, especially of the upper part of the head; and mentally by a deficiency graded all the way from idiocy to a mental development corresponding to rarely above five years, as measured by the Binet-Simon test.

I was first attracted to these patients by the habitus ocluroum. There is something peculiar about their eyes that immediately focuses your attention. The eyes appear small and slanting as in the Chinese, whence the nomenclature; but in reality the eyes are neither small nor slanting. This appearance is simulated by the following: the external canthus is on a higher level both absolutely and relatively than the internal canthus, the reverse of what obtains in the Caucasian Race; the bridge of the nose is flat and a redundant fold of skin extends from either side overhanging the inner commissure above, forming what is known as Epicanthus; as a result the interpalpebral space is narrow and oblique, there being exposed in consequence a smaller part of the eye-ball than usual and in a plane directed upward and temporally; but the size of the bulb and its situation in the orbit do not deviate from the normal. Other ocular conditions frequently associated are blepharo-conjunctivitis, strabismus, nystagmus, and lenticular opacities. The nerve head and the rest of the fundus are normal.

The skull has a high cephalic index, i. e. it is brachycephalic, in contradistinction to the skull of the White Race which is dolichocephalic.

The retro-nasal area is contracted so that a slight increase or even an average amount of adenoid tissue in this region readily leads to obstructive symptoms; and we have the open mouth, protruding tongue and rhinorrhea so frequent in these patients.

A congenital cardiac lesion is present in the majority of cases so that it seems to me to be more than a mere co-incidence but rather somehow related to the basic casual vice.

These patients succumb early to the mycotic affections, especially tuberculosis, which accounts for the disease being but very rarely observed in the adult.

In addition to the decided defect in their intelligence, a notable feature about these patients is their excessive good-nature. This latter, viewed teleologically must be considered pathological—a sort of an inadequate reaction to a disagreeable stimulus. Herbert Spencer would call this a subnormality in sensation and antagonistic to the fundamental law of self-preservation and its corollary the evolution of the individual.

These cases are of interest not only to the physician but also to the student of heredity and anthropology. The usual explanation offered as to the causal factor is that they are "exhaustion products" due to an enervated state of either or both parents at the time of conception. Why this should result per se in a child of the Mongolian type rather than in an Indian or Negro seems to me illogical. Would it not be more plausible to say that the causa morbi is resident in the germ plasm of the procreator as a recessive character and under favorable conditions re-appears in the offspring, thus conforming to the Mendelian theory of heredity?

This disease is often mistaken for Cretinism, but this error will seldom occur if one only bears in mind (1) the peculiar appearance of the eyes, (2) the impairment of the mind, and (3) the frequent cardiac lesion, a trinity that permits of only one conclusion; besides the characteristic physical stigmata of hypothyroidism are absent.

As for ameliorating this pitiable conditon our armamentarium serves us ill. Endocrinous therapy is useless. The parents must wait patiently until Lethe arrives, whose appearance fortunately is not long delayed.

EDITORIAL

SICKNESS AS THE PATIENT SEES IT.

IN retrospect, a protracted convalescence is a dwindling vista punctuated at daily intervals by toast, milk toast, chicken broth and more milktoast. One learns to look upon milktoast much as one used to look on baked apples and stewed prunes in those early days when a certain grateful patient donated a hogshead of apples (the small green kind) and countless prunes (the small hard kind) and a thrifty matron with housewifely economy made them stretch out through an eternity of lunches and suppers until the nausea center became sensitized and responded at every mention of prunes and apples. And that reminds one of the thrifty cook who saved the goose grease from the Christmas goose and used it in place of butter in the sauces she made for vegetables. One recalls with a shudder the olfactory horror of those early days when his person was annointed with goose grease if he had a sore throat, goose grease if he had a cold, more goose grease when he had the whooping cough. The characteristic of goose grease is that the longer it is kept the richer it smells, and a whiff of goose grease added to stewed carrots brings up the picture of a hermetically sealed sick room occupied by a mittel-europa family, lighted by a smoky kerosene lamp and filled with the allpervading, elemental, human smell with trimmings of kerosene oil, raw onion poltice and rancid goose grease.

All of which brings us back natuarlly to the subject of milktoast. Also to the visits of sympathizing friends, which reminds one of the story of that sympathetic Irishman in the following monologue:

He had been sent by the Lodge to inquire into the state of a sick member, and after a glance at the sick man he said, "For th' luv av God but yez look bad. Du th' Doctor give yez ony hope? Oi should tink not. Oi'm glad Oi got in befure ye died. Oi brut a few flowers, but av yez don't care about thim now yez can kape thim for th' funeril. Have yez ony missage fer th' bhoys befure ye go? Will, Oi must be going." A second after closing the door he opened it again and poked in his head to add, "Say, yez had better hav thim move yez downstairs now; these stairs is hell to get a coffin down."

What is there about the average sickroom caller that he or she must always hover about this mental attitude and recall the gruesome details of almost every other sickroom that they have visited? The art of calling on the sick is summed up in Sam Weller's comment on the briefness of his valentine—"they vishes there vas more of it."

A curious observation is the invariable presence of numberless toast crumbs in the bed, even when no toast is served. This is a phenomenon which requires more careful study than has been heretofore given it. It is also curious how sympathy affects different friends. Some it smites in the form of unremitting gifts of chicken jelly, others are stirred to loan one the "Education of Henry Adams" to read. Others find consolation in calling up the family twice a day to inquire by telephone, a form of absent treatment that is as complimentary as sending a love letter on a postal card and gives no personal inconvenience to the caller. But these are horors of convalescence that are completely offset by the delight of being able to detail one's symptoms at length which is a manner of getting square with one's tormentor that is highly recommended as an occasional tonic, but deprecated as a regular habit.

H. G. W.

MADE IN GERMANY.

SCARCELY had the trade restrictions been removed than there came through the mails an enclosure bearing a German stamp printed in the familiar type and showing all the old familiar marks; a pseudoscientific pamphlet advertising an invaluable cancer cure. It is not necessary to specify nor to describe it and it is hardly right even to dignify it with an editorial notice, were it not that the occurrence brings to our notice a fact which is in grave danger of being forgotten, viz.: that the land of the turtle serum and the gas bomb is the same old Germany unrepentent, unchastened, keen as ever to reassume the position in the world that she apparently does not know she has lost. One notes with keen interest that the postage stamp is the same old Germania of the Kaiser's palmy days. A real Republic would have started life with a new set of postage stamps.

In passing one is reminded that the press reports that Friedman's Turtle Serum has been sold to a couple of German investors for some hundreds of thousands of marks. Human nature has not changed much, although geography has. H. G. W.

WHENCE COMES THE FLU?

TWO WORDS in popular use grate as harsly on the ear as an untuned fiddle, Flue and Con. What is there in the popular mind, that the average man refuses to say Influenza or Consumption? Is it a relic of that savage superstition which influences some Eastern peoples to dress their boys in girls' clothes to avoid the anger of the Gods? At any rate there is a wide-spread discussion on the all absorbing topic of the origin of the disease variously known as Epidemic Influenza, Grippe, Fluie and Flu.

The Sun-New York-Herald has added to the gayety of a really serious problem by reproducing in part an essay on the origin of epidemic disease and pestilence by the late Noah Webster, amplified by certain meteorological observations of Mr. H. P. Maxim, and some sententious deductions by the author of the unsigned article.

About Mr. Webster's erudition there can be no question, as is patent to any one who has tried to read his famous Unabridged Dictionary. In the same spirit of patient and laborious investigation, he gathered together a record of all epidemics of influenza of which there was a record previous to his time up to and including 1799. Side by side with these, he tabulated such concurrent natural phenomena as volcanic eruptions, earthquakes and comets, observing with great acumen that a volcanic eruption either preceded by one year, or possibly succeeded by one year, every appearance of the epidemic. He also noticed that the outbreaks were often coincident in different parts of the globe, and called attention to the spread in America of epidemic diseases from the West toward the East. It is an extremely interesting book. He brings forward as its conclusion the suggestion that epidemics begin in America and spread therefrom, and that they are not dependent upon contact, but are due to the simultaneous outbreak of latent disease, dependent upon electrical changes in human beings influenced by some great change from without, which he suggests is atmospheric. The fascination of this form of logical reasoning is so great as to attract minds as carefully analytical as was that of that truly great scholar into the dangerous course known in works upon logic as *post hoc, propter hoc*. Indeed the fascination of building hypotheses to fit an idea will lead anyone astray, who has not all the facts at his command. It is so easy to fit together what we have observed with what we have deduced, that everyone has more or less decided for himself that the unknown factor in these wide-spread epidemics is something different from the ordinary means by which contagion spreads. One naturally asks the question, why should Siberia and Hindustan, Europe and America, Australia and Tahiti be smitten almost simultaneously, especially when one considers that communication with the last named Island is extremely rare and that the epidemic seemed to appear there spontaneously? If Mr. Webster's fascinating theory is correct, and we are to trace the epidemic of 1920 from a starting point in Chicago simultaneously with unusual atmospheric conditions noticed by Mr. Maxim on the 17th of December, 1919, and couple with it a volcanic disturbance in Mexico, as suggesting that the epidemic really was of spontaneous origin, and spread from the central part of the American continent, how are we to account for that much more violent and fatal epidemic of the Fall of 1918, which because of its apparent point of origin, was called Spanish Influenza?

A chain is no stronger than its weakest link, and if one essential fact fails to fit, the hypothesis is wrong. It is generally conceded that the definite causative factor of the epidemic of 1918 is unknown. Very many able investigators express strong doubts about the role of the so-called influenza bacillus. So many and various were the combination of bacteria found in the pneumonia cases that no single one can be justly put forward as the probably universal cause, but in any epidemic or series of epidemics, we are prone to overlook the fact that immunity plays an important part in determining who shall escape, and the question of carriers is almost entirely lost sight of in considering the wide-spread simultaneous appearance of any form of disease. It has long been known, for instance, that rabies, which we are accustomed to associate only with a mad dog, affects cats, wolves, skunks and many other wild animals, and doubtless affects them in different degree. It is more than likely that diseases like influenza may affect other members of the animal kingdom, and be carried by them in unrecognizable forms, or may reside harmlessly among migratory creatures in ways hitherto unsuspected. It seems far more logical to direct suspicion toward the migration of birds, mice and rats, than search the atmosphere for things that we do not understand. Bacteriological study may yet find a pleomorphous organism, comparable to Rosenow's Streptococcus of Infantile Paralysis, to explain fully both the variations in distribution and severity that are such baffling features of what in our ignorance we now call influenza.

HEALTH WORK IN THE Y. W. C. A.

THE YOUNG Women's Christian Association has recently taken up the problem of correcting postural deformities in its newly instituted department of corrective work. This is being attempted both in regular classes and individually for those who are not sufficiently strong to take regular class work, but need supervised exercise. The opportunity for women of limited means to get properly conducted care and instruction seems to be an unusual one and merits warm hearted support.

It is only necessary to take out an associate membership, which costs a dollar, and for girls under eighteen fifty cents, get a proper certificate made out, which can be obtained from the Director, leave a deposit of seventy-five cents for a locker key and pay five dollars a month special tuition.

Cases of curvature of the spine with resulting chest deformities, under-developed muscles, flat feet, and chronic constipation are included in the conditions for which corrective gymnastics are given, and for which classes are planned on Mondays and Thursdays.

H. G. W.

THE CENSUS BUREAU SUMMARY OF MORTALITY STATISTICS FOR 1919.

IN VIEW of the general publicity that has been given to the recent epidemic of so-called influenza, and the panicy spirit that has been instilled in the lay public in consequence, it is rather reassuring to glance over the figures that were published on February 2nd by the Census Bureau and to find that the high death rate of 1918 has not been repeated in the corresponding epidemic of 1919-1920. Influenza caused 244,681 deaths, and pneumonia (all forms) 232,786, a rate of about three per one thousand for the entire country. The rate in 1917 was one hundred and fifty per one hundred thousand for all forms of pneumonia and in January, 1920 was forty-four per hundred thousand in New York City. On the face of these figures when interpreted by individual experience, it would seem that the epidemic just past is little, if any more severe, than those of a number of previous years and in fact the type of cases of pneumonia showed a distinct return to the pneumococcus form of infection. It is an open question as to how much practical good has resulted from the publicity campaign and whether the resultant hysteria has not largely counterbalanced its prophylactic value.

H. G. W.

Society Transactions

CONTINUATION OF TRANSACTIONS OF SURGICAL SOCIETY OF NOV. 6, 1919.

A Case of Splenomegaly Due To Hodkin's Disease, Treated Medically, By X-Ray and Surgically. Specimen.

George I. Miller, M. D.

Harris K. Real estate man, aged 64 years, Russian, lived in New York 40 years. He has 11 healthy children. His wife never aborted.

The patient entered the Jewish Hospital of Brooklyn October 9, 1919, for relief of weakness, pallor, loss of weight and a large mass in the abdomen.

Family History. Negative.

Previous History. Had typhoid fever 38 years ago. Had no malaria or syphilis. Suffered from chronic articular and muscular rheumatism for several years prior to ten years ago.

He was never subject to colds or tonsilitis, never to gall-stone colic or abdominal pain.

His cervical, axillary or inguinal glands were never enlarged.

The patient lost his left eye 43 years ago by a bullet shot.

Habits—Good. Alcohol, negative. Occasionally drank several glasses of prewar beer. Denies veneral disease. Sleeps well. Appetite good until 4 months ago. Constipated.

Present Illness. Four months ago the patient noticed a painless mass in the left side of his abdomen. In the course of a few weeks the mass grew much larger. He lost about 25 pounds in weight since he took sick and felt a progressive loss in strength. He noticed marked pallor. He had no nausea or vomiting. No gastric hemorrhages or blood at stool.

The patient consulted several physicians and was treated medically with large quantities of liquids, powders and pills without relief. He went to the Catskills for three weeks, which seemed to have improved his strength and color. The abdominal mass, however, remained the same size.

On returning to the city he was referred to a specialist on internal diseases, who informed him that his spleen was enlarged, and recommended X-ray treatment. He received seven X-ray exposures at intervals of four days, each exposure lasting from 15 to 20 minutes. After the first four exposures the spleen seemed to have shrunk to about one-half the size, but later grew to even larger size than before the treatment. He was then advised to have his spleen removed.

Physical Examination. Shows an elderly man, 5 feet, 5 inches in height, with sallow skin, anemic, pale; left eye missing; right sclera not jaundiced; pupil normal. Patient lying in bed. Appears chronically ill. Most of the teeth are missing. Those remaining are carious and loose. Tongue, coated. Tonsils, negative. Neck, symmetrical. No glandular enlargement. The skin is faintly jaundiced, there is no pruritis, no blebs and no pigmentation.

Heart—Not enlarged. There is a faint systolic murmur at the apex, transmitted towards the left axilla. No angina. The pulses are of small volume and low tenson.

The arteries show moderate thickening, somewhat tortuous.

Lungs—Negative. He does not cough; was never dyspneic or cyanotic.

The abdomen shows slight dullness in the flanks and shifts with change of position. The liver edge is felt two inches below the costal margin. The spleen fills the entire left half of the abdominal cavity, extending from underneath the left costal margin to the left iliac fossa and to the right of the linea alba.

Genitals—Negative. Glands of groin not enlarged.

Rectal Examination—Negative. Prostate not enlarged.

Extremities—Negative. Reflexes, normal.

Patient admitted to the Jewish Hospital October 9, 1919.

Temperature, 101 F. Pulse, 104. Respiration, 24.

Blood Pressure—130 systolic; 78 diastolic.

Blood Examination—Red blood cells, 3,328,000.
White blood cells, 3,000.
Polys., 64.
Lymphocytes, 36.
Hemoglobin, 55%.

Wasserman—Negative.

Urine Examination—Specific gravity, 1015. Hyaline and granular casts. Few pus cells.

October 10, 1919, I gave him a blood transfusion of 400 c. c. of whole blood.

October 13, 1919, blood examination showed—
Red blood cells, 3,808,000.
White blood cells, 3,200.
Polys., 70.
Lymphocytes, 30.
Hemoglobin, 65%.

October 20, I gave him a second blood transfusion of 400 c. c. of whole blood.

Blood examination showed:
Red blood cells 3,840,000.
White blood cells, 3,200.
Polys., 61.
Lymphocyles, 30.
Hemoglobin, 65.

Operation. October 22, 1919, under gas, oxygen and ether anesthesia, in the presence of a number of surgeons who attended the Congress of the American College of Surgeons, I opened the abdomen of the patient by making an incision in the linea alba, from the ensiform cartilage down to two inches below the umbilicus. On opening the peritoneum, I evacuated about 6 ounces of serous fluid. The liver was smooth and extended three inches below the normal line. The gall-bladder and appendix were normal. The spleen filled the entire left of the abdominal cavity. It was smooth and hard. Extensive adhesions bound it firmly to the diaphragm, to the parieties and to its own bed. The adhesions were easily destructible so that I succeeded in breaking through them without injuring the spleen. I enucleated the organ by lifting the lower extremity through the incision and then the middle and upper part until it was entirely out of the abdominal cavity. The spleen was then turned over to the left, which exposed the internal surface and its pedicle. Without much traction on the pedicle, I divided it between two ligatures, clamped and ligated the splenic vessels, after breaking up the adhesions, and, before removing the spleen, I packed several abdominal pads in the splenic bed to prevent hemorrhage. These pads were now removed and the splenic bed and the pillars of the diaphragm inspected. Bleeding from the oozing points had stopped. There were no mesenteric glandular enlargements. The stomach and intestines were normal.

The abdominal wall was closed by four layers of sutures, without drainage, using bolsters, silkworm and silk for the skin. The dressings were compressive and elastic so as to fill up the void left by the removal of the spleen. While still under the anesthetic, I gave him a post-operative blood transfusion of 500 c. c. of whole blood to overcome the shock, to increase his resisting power, and to return the blood lost.

Time of both operations, 40 minutes.

The following day he looked bright and cheerful and showed no sign of reaction. He had no chill. Temperature, 101 F. Pulse, 110. Respiration, 24. During the second night he was very restless; slept at intervals. The temperature went up to 102 F.; pulse, 130; respiration, 28.

October 24, 1919, I gave him another, or fourth, blood transfusion of 400 c. c. of unmodified blood. From that day he showed signs of gradual improvement. The suture line had to be opened on account of a stitch infection.

Eleven days after operation he was in a wheel chair on the porch and every day thereafter, weather permitting.

Blood Examination, November 1, 1919—Red blood cells, 4,200,000. White blood cells, 8,000. Hemoglobin, 65%.

Today, November 6, 1919—Temperature, 100 F. Pulse, 90; good quality. Respiration, 20.

He is still in the hospital.

The spleen weighed 5 pounds, and was smooth and hard.

Histologically, it shows no perivascular inflammation or thickening. There is no increase in interstitial fibrous tissue. It does show lymphgranuloma denoting evidence of Hodgkin's disease.

Osler's textbook, page 749, states:

"In Hodgkin's disease, whether or not there is a type involving the spleen alone without the lymph glands, is still a question.

"The disease may originate in the lymphoid tissues of the spleen. It is very difficult to distinguish such cases clinically from the early stages of Banti's disease."

End Result in Extensive Osteomyelitis of Humerus. Patient. X-Rays.

John Linder, M. D.

Norman S., age 4 years, admitted to the Jewish Hospital June 14, 1918: discharged December 10, 1918.

Previous History. Measles 5 weeks before admission.

Present Illness. Began one week before admission, when the child complained of pain over the left elbow. This continued for a few days. A physician was called in, who suspected either a fracture or a dislocation, had an X-ray taken and applied a circular cast from the middle of the arm to the wrist. The following day the mother noticed swelling of the hand. At this time the patient was referred to me. The cast was cut down.

Physical Findings. Uniform swelling of the entire arm and forearm, extending to the shoulder-joint, the area over the shoulder-joint being red, swollen and tender. Temperature, 105. The child was complaining of headaches and pains all over the body. No history of injury or infection.

The case was referred to the hospital with a diagnosis of perforating, suppurating epiphysitis or osteomyelitis.

X-Ray Findings—Negative.

Operation.—Incision over the shoulder-joint region, evacuating a large quantity of pus. Blood culture taken June 15 showed staphylococcus aureus, 6 colonies to the cubic centimeter. Wound culture showed the same organism.

A second X-ray, 4 weeks later, showed marked destruction of the entire humeral shaft, including the head. No involucrum or sequestrum present. The ulna appears dislocated posteriorly.

During this time the humerus was exposed and the entire length of the medullary canal opened up and treated with Dakin's solution.

During the child's stay in the hospital the following complications occurred:

Osteomyelitis of upper end of right tibia.

Bilateral otitis media.

Septic laryngitis, due to streptococcus brevis.

Third X-ray Report. Nothing left of the humerus involucrum conforming to contour of humerus. No loose fragments.

Fourth X-ray Report. Appearance of involucrum improved. No evidence of sequestra. Shoulder-joint clear.

Fifth X-ray Report, January 16, 1919: Showed evidence in the upper one-third of the humeral shaft—exacerbation of acute osteomyelitis.

Operative Result in Severe Graves' Disease. Patient.

John Linder, M. D.

Sarah M., female age 20, single, seen by me with a family history of one aunt and a cousin having goitres.

Past History. Measles, whooping cough and diphtheria.

Patient admitted to hospital March 19, 1919, complaining of swelling of the neck; duration one year. With the swelling the patient notices protrusion of the eyes, progressive weakness, marked dyspnea and cardiac palpitation, tremors.

Physical Examination. Revealed marked exophthalmos and swelling of the neck; vasmotor instability; restlessness. Heart sounds, very rapid; irregular in rate and rhythm. Pulse, 160.

The patient was put to bed and I managed to stay the operation for 5 days, the patient insisting on operation, which was performed March 24, 1919.

Operation. The right lobe, isthmus and part of the left lobe were removed. The patient's convalescence was quite stormy for the first few days; then gradual improvement was noted until the day of her discharge, April 19, 1919, at which time her pulse rate was 84, when resting. This improvement lasted a few months, when the patient again began to complain of nervousness and noted slight increase in the size of the neck. I advised readmittance to the hospital and on September 19, 1919, a second operation was performed with removal of two-thirds of the remaining thyroid.

The patient was discharged October 3, 1919.

Convalsecence uneventful.

Pulse rate on discharge, 80.

The interesting features of this case are:

First—Grave constitutional disturbances before the patient was subjected to operation and very stormy convalescence.

Second—Difficulty of gauging the amount of thyroid to remove at operation.

Third—Marked improvement after second operation with a very smooth convalescence, the patient leaving the hospital in 12 days.

Acute Cholecystitis—Cholelithiasis in Girl of 15, Following Acute Appendicitis.

John Linder, M. D.

Patient admitted to hospital June 9, 1919. Discharged June 22, 1919.

Family History. Negative.

Past History. Has had several similar attacks, like the present one, in the past year, these attacks lasting for a day, accompanied with vomiting and abdominal pain.

Past Medical and Surgical History. Negative.

Present Illness. Patient admitted with pain in the abdomen, of one day's duration, cramp being general, more localized to the right lower quadrant. She had vomited a number of times. No relation of pain to ingestion of food. No radiation to any other portion of the body.

Physical Examination. Tenderness in the right lower quadrant.

Temperature, pulse and respiration, negative.

Urine examination—Negative.

Blood Count—Total leukocytes, 16,200. Polys., 79%.

Operation. Gridiron intermuscular incision. Large quantity of serous fluid in the peritoneal cavity. Appendix adherent to lateral wall of pelvis; acutely congested. Appendectomy in the usual manner.

Patient re-admitted to the Jewish Hospital September 17, 1919. During the three months' interval, the patient complained of frequent attacks of abdominal cramps simulating pyloro-spasm. She was seen by the writer and treated medicinally with anti-spasmodics, with no improvement of symptoms. During this time the patient visited many clinics and hospitals where gastric analysis and X-rays were taken, with a resultant diagnosis of suspected ulcer of the stomach or duodenum. On the day before admission to the hospital, the writer was again called to see the patient during one of her attacks. Physical examination at this time revealed a palpable pear-shaped tumor in the right hypochondriac region, acutely tender. He advised readmission to the hospital for operatin.

Operation. Upper right rectus incision. Peritoneum incised. Gall-bladder found acutely distended, inflamed and thickened. Omental adhesions separated from fundus of gall-bladder. Palpation of the gall bladder revealed numerous small stones, the size of peas, with one stone blocking the cystic duct. Cholecystectomy performed.

Pathological examination showed acute cholecystitis.

The point of interest in this case is an attack of acute appendicitis, followed shortly by repeated upper abdominal attacks simulating pylorospasm, but in reality was due to cholescystitis and lithiasis, undiagnosed until seen during her acute attack.

Pyonephrosis, Occurring During Convalescence from Acute Appendicitis.

John Linder, M. D.

Dora K., female, Russian, married, age 48, was admitted to the Jewish Hospital September 2, 1919.

The writer was called to see this case the day before admission, giving a history of having been seized with cramp-like pains in the abdomen, accompanied by vomiting, with slight localization of the pain to the right lower abdomen.

Past History. Negative, with the exception of a similar attack 10 years ago.

Physical Examination. Middle-aged woman, rather obese. Did not appear acutely ill. Abdominal examination revealed moderate tenderness in the right lower quadrant of the abdomen.

Pelvic Examination—Negative.

Temperature, 100. Pulse, 80. Respiration, normal.

Blood Count—1,400; 74% polys.

Diagnosis. Acute exacerbation of chronic appendix.

Operation. September 3, 1919. Right lower rectus incision. A fairly acute appendix removed. Exploration of the abdomen was negative as to the gall-bladder, stomach, duodeum, kidneys, or pelvis.

Postoperative Course. Gradual elevation of temperature up to the third day, when suppuration of the wound was noted. The sutures were removed and the tension was relieved, the temperature rapidly subsided. Then for a period of three weeks, convalescence was uninterrupted, the reason for the patient's stay in the hospital being superficial wound infection.

On the 2nd day of October, 1919, the patient was suddenly seized with severe chill and a temperature of 105, with vomiting, complaining of pain in the upper right abdominal region. At this time the question of diagnosis was whether the patient was suffering from a complication of her appendicial operation or an intercurrent disease.

Physical examination revealed an indefinite mass in the right upper abdomen, which was moderately tender, with no lumbar tenderness.

Early urinary examination was negative.

Later urinary examination, after chills and fever, showed plus albumin with many pus cells.

Cystoscopic examination showed the bladder urine cloudy; mucous membranes around the right ureter congested, and from this ureter a cloud of pus ejected. Left ureter normal to function and?

Operation. October 20, 1919. Right ilio-lumbar incision was made and a large pyonephrotic kidney removed, containing about one pint of pus. The kidney, on section, contained a few concretions in the pelvis.

The points of interest in this case are:

First. Normal convalescence after appendectomy.

Second. Development, 3 weeks later, or repeated chills, high fever and vomiting.

Third. Question of diagnosis—Were we dealing with an intraabdominal collection of pus, a pylephlebitis (suppurative), or general hemic infection? The patient presented no localizing symptoms, except for a plus albumin and white blood cells, cystoscopic examination determining and localizing the disease to the right kidney.

Operative Result in Severe Graves' Disease. Patient.

John Linder, M. D.

Dr. William Linder:

"The point Dr. John brought out is a very good one and I can illustrate it by one particular case. When we have a severe case of hyperthyroidism or severe Graves' disease the question which presents itself is as to how much thyroid can we remove or should we remove. If the patient's condition permits of the removal of a great deal of thyroid, I think that is the course which should be followed.

"I believe that the trouble with these cases in the past has been that we have not removed enough of the gland.

"The case to which I have already referred was referred to me four years ago. I did a ligation of both superior thyroids under local anesthesia. In six months the patient came back forreturning symptoms. His condition, after two weeks' rest in bed, was such that I ventured removing one lobe. I did a right lobectomy. The patient remained all right for a period of six months. The patient came back to me with recurring symptoms and wanted to know what I could do for him. I told him that he still had too much thyroid. I re-operated him and took out all but a little portion of the thyroid no larger than a hazelnut. Now, this man is a traveling salesman by occupation. Since then he walks the New York pavements anywhere from 5 to 8 miles in the forenoon and from 10 to 15 miles in the afternoon and feels perfectly well. I think it is a most important question. I feel that the great difficulty, as I have already said, in these acute cases is that we do not remove enough thyroid. The only question in these cases of Graves' disease is when to remove it. "

Dr. Henry F. Graham:

"I would like to ask Dr. Linder what he thinks of a recent article on this subject which appeared in one of the journals, in which the statement is made that the reason why we get such severe post-operative reaction in these cases is because of the fact that we take out an insufficient quanity at the time of the original operation, and that, in the very bad cases, if we had a little more nerve and took out more of the thyroid, leaving perhaps the hazelnut that Dr. Linder speaks of, we would not get the severe reactions that we do, and the patient would do better from the start.

"I would like to get his opinion on that. I am sure he has seen quite a little of this work and it would be worth while if we could have his views on this.

Dr. William Linder:

"The opinions that we read and hear are conflicting. One surgeon recommends that the wound be left open after thyroidectomy in order to prevent, absorpten while as good a man as Crile removes the thyroid completely and says he goes outside the capsule, and he has a way of doing it, closing the wound perfectly tight and gets no symptoms of hyperthyroidism.

"I think the difficulty is in handling the thyroid too roughly and that we do too much manipulating at the time of operation. A great many cases of thyrotoxicosis with marked symptoms of toxemia are due to rough handling of the thyroid. The condition which is present should determine how much should be removed. I believe we leave too much thyroid. On the other hand, these cases are poor surgical risks It is better to do your operative work in two or three sittings. The great tendency is to operate in one sitting. I had one case this summer that was a very bad risk. I ordered her to bed for six weeks before I would visit her at the house. She had edema of the skin and looked like a case of general anasarca. She had the typical symptoms of severe Graves' disease. After a rest she came into the hospital. I thought I could not do very much in her case. I was fearful as to how she would take the anesthetic. I started out to ligate the thyroid and asked the anesthetist how she was doing and he replied that she was doing very well. I took courage and went on with one lobe. I asked how she was doing and he said she was standing it very well, So I went to the isthmus on the other side. I again asked the anesthetist if she was doing well and he said she was. In that case I left just a pole of the upper thyroid. She made a remarkable recovery and had no after effects whatsoever. On the other hand I have had other cases where I attempted to do the same thing and lost the patient. I thought that in those cases I did too much.

"The great difficulty lies in deciding how much should be done at one sitting.

"If the patient does not improve after operation we should not hesitate in asking them to come back.

Pyonephrosis Occurring During Convalescence From Acute Appendicitis.

John Linder, M. D.

Dr. William Linder:

"This case has been a great object lesson. We frequently watch these cases of post-operative conditions (or any condition) and are apt to charge everything that happens as being directly attributable to the operation. The consensus of opinion in this case was that she had a pyelonephritis following appendicitis. She gave no history of any kidney symptom. She had an indefinite mass and we thought that she might possibly have an infection of her wound. We thought of the possibility if discharge or infection running along the outer gutter of the cecum, producing perinephritic abscess. She had four or five chills, if I remember rightly, with a temperature of 105. She was very septic, and she was a very poor surgical risk. Dr. John, by just a simple incision (he failed to mention that), under local anesthesia, before he undertook the second operation to see whether there was a collection of pus present, found that this mass was a large kidney and that there was no collection of pus, and he, with his finger, was able to decapsulate the entire kidney through the original incision. The patient improved for three or four days, but the temperature jumped up again, and then the doctor decided to operate. He found a large pyonephrosis there.

"The possibility of the occurrence of more than one condition in the abdomen at the same time must be constantly staring us in the face. The possibility of acute cholecystitic following appendicitis or the possibility of it being present at the same time should always be borne in mind. I remember at the German Hospital some years ago operating on a very stout woman. I found an acute gangrenous gall-bladder, which I removed, and after removing my laparotomy sponges, with which I had walled off my acute gall-bladder, I found a mass of adhesions to the abdominal wall in the lower part of the incision, which was of recent origin. There was an acute gang appendicitis present with the acute gall-bladder which I had removed. That was an unusual case in that both conditions should be acutely gangrenous at the same time. Frequently after the removal of the appendix we may have a kidney condition, or an acute gall-bladder condition, and this case is very interesting to me."

TRANSACTIONS OF THE BROOKLYN SURGICAL SOCIETY.

Regular meeting of the Brooklyn Surgical Society, held at the Building of the Medical Society of the County of Kings, 1313 Bedford Avenue, Thursday, December 4th, 1919, at 8:30 p. m.

The President, James M. Downey, M. D., in the Chair.

Fibroma of the Scalp.

D. George Bodkin, M. D.

My first case is one of Fibroma of the scalp and I regret that I did not have a photograph taken prior to the operation; also that I am unable to show the patient. He promised a week ago to come here tonight, but became insane in the meantime and was removed to the observation ward in Flatbush last Saturday morning.

His record is as follows:

P. B. age 34 years. Admitted to St. Catherine's Hospital July 7, 1919 with a diagnosis of Angioma of the scalp.

Examination showed a large irregular shaped mass very hard on its upper surface and covering almost the entire anterior half of the scalp, extending upward about three inches and forward over the forehead about three inches. It was very much the shape of a Tam O'Shanter hat. There is a picture of a similar case shown in Keen's Surgery except that the tumor is located on the side of the head instead of on the top. In the right temporal region there were five or six large veins three of them about one quarter inch in diameter. There was a line of scar tissue encircling the entire head passing over the lower part of the forehead and extending backward under the occiput.

Past history

Nineteen years ago the patient was brought into St. Catherine's Hospital suffering from a severe hemorrhage from the upper surface of an angioma of the scalp. It was necessary to apply a tourniquet in figure of eight fashion around the head in order to control the bleeding. The tourniquet was left on for one week at the end of which time he had a large sloughing mass at the site of the tumor and a large circular cut from the tourniquet extending deeply into the tissues of the scalp.

After the surface of the tumor healed over and the wounds from the tourniquet had healed he was discharged from the hospital. From that time up to the time of his admission to the hospital last July he had no trouble.

Operation

Catgut ligatures were inserted under the large veins in the temporal region and a circular incision made around the entire tumor. The tissues of the scalp were very hard and this hardness extended down to the skull, in fact in separating it from the skull some of the periosteum was removed. We now had an area about five or six inches in diameter with the skull exposed. It was my intention to wait until the surface was covered with granulations and to do a skin graft, but to our surprise this was not necessary as the surface closed over nicely and is now covered with good firm skin.

The pathologist reported the specimen to be a Fibroma with no evidence of malignacy.

Remarks

The case is interesting owing to the unusual size of the tumor and to the fact that fibroma of the scalp is very uncommon.

Cyst of Thyroid.

D. George Bodkin, M. D.

My second case is one of Cyst of the Thyroid.

Mrs. H. Age 40 years, born in U. S.

Past history—Negative both medically and surgically.

Present history

For the past few years patient has noticed a gradual enlargement of the left side of the neck which did not interfere with breathing or swallowing, but she states that she has become very nervous about the swelling and for that reason requested operation.

Symptoms

There were no symptoms of thyrotoxicosis except physical unrest and irritability—no exopthalmos, but eyes were staring. Skin anemic, no tremors. Pulse varied from 70 to 100.

Examination—showed marked enlargement of the left side of Thyroid, moderately hard, but without fluctuation.

Operation

The Kocher incision was made, platysma divided and tumor exposed. It was necessary to divide the Stero-hyoid, Sterno-thyroid and Sterno-mastoid muscles as the tumor extended considerably to the left.

Examination of the tumor showed a fluctuating mass dark yellow in middle of exposed surface.

Enucleation was started at the edges of the yellow area and a unilocular cyst about three inches in diameter shelled out, leaving a very thin layer of atrophied thyroid posteriorly, not much thicker than the ordinary capsule of the gland. Anteriorly there was nothing but very thin capsule covering the cyst. There was very little bleeding. The walls of the remaining gland were brought together with plain catgut, muscles sutured and wound closed with drainage.

Remarks—The case was interesting because of almost complete atrophy of the entire left lobe due to pressure of the cyst.

Direct and Indirect Inguinal Hernia (Two Cases).

Lewis L. Pearson, M. D.

At the Samaritan Hospital, and assisted by Dr. Sheehy, I operated upon Mr. Robert B. Sept. 3, 1919, for a direct inguinal hernia on the right side. Just one year before I had operated on him at the Harbor Hospital for double indirect inguinal hernia of long standing. The hernia on the right side was quite large and extended into the scrotum. He had at times worn trusses, but when he came under my observation had already discarded them. The hernia on the left side extended only to the external ring. With the assistance of Drs. Sheehy and Lane I operated on him Sept 3, 1918. The operation performed was that of Bassina. The incision was the usual one. After cutting through the skin and fascia, we came directly to the cord and sac. The aponeurosis of the external oblique covered it. Above the external ring was a hiatus. The aponeurosis was found, but it seemed less dense than normally The hiatus extended to the internal ring, which was not more than an inch and a half beyond the external ring. The conjoined tendon was lax and thin. The aponeurosis of the external oblique was dissected to the rectus sheath and to the shelving Poupart's ligament. The sac was isolated, contents reduced, neck transfixed and ligated. The floor was strengthened by suturing the conjoined tendon and muscle mesial to it to the shelving part of Poupart's ligament. The cord was placed upon this and the aponeurosis of the external oblique sutured with a continuous chromicized catgut suture over the cord, thus obliterating the hiatus presenting in this structure. The hernia and anatomy of the left side presented nothing unusual. For ten months the patient seemed cured. Then early in July a direct hernia appeared on the right side. As is the custom in these herniae, the bulging mass was small. September 5, 1919, we repaired this defect. There was no tendency to recurrence of the indirect hernia. In these three months since the last operation there has been no recurrence.

George B., brother of the patient whose surgical history I have just reported, and two years his senior, presented exactly similar lesions in every respect. To report the details would be only a repetition of the former case. The time of the operations on the two patients was less than a week apart, as well as the time of the appearance of the direct herniae.

I wish to ask the Society why these direct herniae followed the indirect ones. Had they existed at the time of the first operations, would they not have shown a bulging before the lapse of the nine or ten months?

J. C. Masson, of the Rochester Clinic, attributes this recurrence to injury of the nerve supply of the lower fibers of the internal oblique, this injury being inflicted either at the time of the operation or prior to it by undue pressure of trusses. However, Moschowitz, in a very able article, contends, with much emphasis, that muscles play no part in the pathogenesis of hernia.

I have reported these cases looking for light.

Injury to Abdominal Wall.

Charles F. Stratmann, M. D.

S. H., age 12, was brought to the Norwegian hospital Sept. 27, 1918, with a history of having fallen on a picket fence, a picket striking his abdomen just below the umbilicus. The ambulance surgeon said when she first examined the boy there was a large tumor about the size of an orange present, but this disappeared after the patient entered the hospital, and the boy seemed to be very comfortable.

Examination—The skin was intact. No marks present. Just below the umbilicus, extending to the pubes, there was a separation of the tissues beneath the skin, and the intestines could be readily palpated, and when the patient coughed, a tumor mass appeared as in a ventral hernia.

Operation—An incision was made through the skin from just below the umbilicus to the pubes. The tissues beneath this, i. e., the fascia, muscle and peritoneum, had been severed as straight and clean as if it had been done by a scalpel. This was then closed as in any abdominal operation, and the boy made an uneventful recovery.

To be continued

Medical Book News

BOOK REVIEW SUPPLEMENT TO THE *LONG ISLAND MEDICAL JOURNAL*

Edited by JAMES M. WINFIELD, M.D.

All communications, books for review, etc., should be addressed to the Editor of this Department, 1313 Bedford Ave., Brooklyn, New York

1920, No. 2 MARCH, 1920 4 PAGES

SOCIAL WORK: DOCTOR AND SOCIAL WORKER.

SOCIAL WORK. Essays on the Meeting-Ground of Doctor and Social Worker. By Richard C. Cabot, M. D. Boston & New York, Houghton Mifflin Company, 1919. 188 pages. 12mo. $1.50.

The author of this volume is careful to state that he deals with the subject, social work, as it forms the meeting ground of doctor and social worker. He distinctly circumscribes this aspect of the social worker by insisting that she shall serve only as one of the means for diagnosis and treatment—that her work is to be connected with the condition of the patients' health—that she is not to pursue independent sociological or statistical inquiries—that she is not to be the agent of any other non-medical society, and remarks that it is unfortunate even if her salary should be paid from any source other than the medical institution itself.

This definition is very opportune and especially acceptable at this time for it rules out with a stroke of the pen that horde of fanatics and radicals who have busied themselves with spreading pernicious doctrines subversive of law and order under the guise of welfare workers so that the whole class has come to be looked upon, by many, as a pack of pestiferous busybodies.

The author keeps fairly well to his definition throughout and gives advice that is healthful, valuable and timely and will do much good.

In enforcing his argument the author is at times led into certain statements which appear unguarded. In chiding the medical profession for its neglect of medical psychology, a procedure quite unnecessary in a book of this character, he makes the statement that our physicians are more to blame for the heretical healing with Christian Science and New Thought than the leaders of these abominations because these cults are the result of a revolt on the part of the laity against such neglect.

Again he pictures the dispensary of the old days as a place to give out medicines in bottles and boxes. He tells us the patient mentioned the name of his ailment and the corresponding drug was given. This surely is a picture many centuries old. He states with the advance of modern medical science, there are left now but few physicians who believe that disease can often be cured by a drug. It is recognized by the better element of the medical profession all over the world that in only seven or eight of about one hundred and fifty diseases clearly distinguished in our text books of medicine have we a drug with any genuine pretension of cure. But these anathemas are not confined to medicine alone. Surgery comes in for its full share. The author remarks that most well-trained physicians of the present day do not believe that many diseases can be cured by medicine or by surgery and that we do not have great confidence in chemical, physical or electric therapeutics. The casual reader would gather from this that the office of the physician in the remaining 142 diseases was simply to attempt to make a diagnosis, a chain diagnosis it may be—then pray to God, use a serum or vaccine or social worker and wait patiently for the post mortem. It is to be hoped in their latter days that they of this mind may fall into the hands of one conversant with or who has not forgotten the elements, at least, of therapeutics.

He then asks what is to take the place of drugs in dispensary treatment. He is careful later to state that "I do not want anybody to think that I do not believe in drugs. I believe in them tremendously in the particular cases where they are of use." There is a great deal of modern cant, I am sorry to say, in all of this onslaught on the profession of medicine for its shortcomings, which are assumed rather than proved, to support an argument.

The devotees of so called medical psychology have let loose a class of necromancers and magicians who have damned medicine and science. Good they may have done when under intelligent control but they come pretty near belonging to the same class of ranters who would discard drugs because they cannot effect a direct cure and embrace all of the impossible isms, forgetting that relief is the major portion of human effort in this and all departments of life, not radical procedure which is the dangerous cry of the day. It may not be amiss to remind them that most of the functions of the human being can be controlled by drugs; that alcohol is not always a narcotic.

The last chapter on "The Motive of Social Work" is a picture of very lofty vision of life. Of course, that can never be too high. But we must take care in such pictures to admonish our pupils to keep their feet on earth while they "lift their eyes to the hills"—otherwise we may merit the criticism—unpractical.

H. A. F.

NERVOUS AND MENTAL DISEASES.

NERVOUS AND MENTAL DISEASES. By Archibald Church, M. D., and Frederick Peterson, M. D. Ninth Edition, thoroughly revised. Phila. & London, W. B. Saunders Company, 1919. 949 pages. 350 Illustrations. 8vo. Cloth, $7.00.

Part one of the ninth edition of this work is rewritten by Dr. Church and deals with Nervous diseases exclusively. He takes up methods of examination and history taking, then the description and treatment of the various nervous diseases. The latest theories and discoveries have been incorporated, including war neurological investigations, so that the subject is up to the minute. The arrangement and treatment of the subject is admirable.

Dr. Peterson writes part two of the book which is devoted to the description and treatment of mental diseases. The author discusses the various theories in regard to the etiology of the various types and has included all modern works of any account along this line. He follows the New York State Hospital classification but it is remarkable that he leaves out any description of or reference to the very important group of infective—exhaustive and taxic psychoses. He also leaves out that extremely important group, Constitutional Inferiority and makes no reference to the vast amount of work along psychological lines which has been done in the last ten years toward the better understanding of the inferiorities and border-line conditions. It is regrettable that this section of the book which is well written should not have been made complete.

S. R. LEAHY.

QUARTERLY MEDICAL CLINICS, APRIL, 1919.

QUARTERLY MEDICAL CLINICS. A Series of Consecutive Clinical Demonstrations and Lectures. By Frank Smithies, M. D., F. A. C. P. Augustana Hospital, Chicago. Volume 1, Number 2, April, 1919. St. Louis, Medicine and Surgery Publishing Co., 1919. Annual subscription: Paper, $5.00; Cloth, $8.00.

This series of clinical lectures on various medical conditions presents much of interest to the practitioner. The cases are varied, carefully presented and the differential conditions minutely discussed. The most recent opinions of other authors are incorporated in these discussions. The methodical method of history taking, of physical examination, of laboratory findings and the X-ray pictures followed by the deductions clinically, pathologically and of X-ray interpretation is a model type which would benefit each of us in following. A careful discussion of encephalitis lethargica with recent opinions and literature brings this subject up to date. An opportunity is also presented for the author to repeat his views upon the effect of syphilis on the stomach and intestinal tract. This volume is well written, carefully compiled, and a thoroughly discussed presentation of medical conditions—it is well worth knowing.

Henry M. Moses.

MODERN SURGERY.

MODERN SURGERY, GENERAL AND OPERATIVE. By John Chalmers Da Costa, M. D., LL. D., F. A. C. S. Eighth Edition. Phila. & London, W. B. Saunders Company, 1919. 1697 pages, 1177 Illustration. 8vo. Cloth, $8.00.

There has been a lapse of five years, since the last edition of this surgery has appeared. Its repeated revisions over a period of a quarter century testify to its popularity and worth as a teaching book.

Upon the occasion of its twenty-fifth anniversary, we offer congratulations and best wishes for continued success.

In its present edition there is little departure from its previous form. Dr. Da Costa has introduced a very charming preface, in which he disarms adverse criticism. In the opening paragraph he expresses the hope that previous complimentary comments constitute an encore and not mere perfunctory acceptance,—or would we exclaim with Mr. F's aunt, as he said of Clennam "Drat him! If he ain't come back again." In conclusion, the author states that he cannot put in everything pretaining to surgery and therefore in the words of Sidney Smith he "Has the courage to be ignorant of a great number of things in order that he may avoid the calamity of being ignorant of everything."

The eighth edition contains more than 100 additional pages and more than 100 additional illustrations. The whole book has been reset and is truly a modern surgery.

As in past years other have collaborated. Thus we note again the contribution of Dr. Chevalier Jackson, on Bronchoscopy and Esophagoscopy. The name of Dr. George M. Dorrance, appears for the first as a contributor to the section on Blood Transfusion. Dr. J. T. Rugh, has again been of help in revising the section on Orthopedic Surgery. Dr. S. MacCuen Smith has described in the Bárány test. Dr. W. S. Wadsworth, has revised Electrical Injuries, and Dr. G. E. Pfahler, the section on X-Ray.

The book has well deserved to live, for it has ever been kept mentally nourished with the newer surgical thoughts and methods.

Royale H. Fowler.

EXPERIMENTAL PHARMACOLOGY.

EXPERIMENTAL PHARMACOLOGY. By Hugh McGuigan, Ph. D., M. D. Phila. & New York, Lea and Febiger, 1919. 251 pages. Illustrated. Plates. 8vo. $2.75.

The long anticipated, brief, laboratory manual for the student of pharmacology seems to have arrived. Dr. McGuigan has produced the most practical book for use in connection with laboratory work that this reviewer has seen. It is scientificially up-to-date; the experiments easily within the ability and comprehension of the average student and the lucid two color diagrams should greatly assist in rendering the laboratory work helpful to the understanding of the text.

There are many Laboratory Manuals on this subject; most of them are too technical for the student; others are too brief and syllabic. Dr. McGuigan's effort seems to have struck the happy medium and will, doubtless, be largely employed by laboratory workers. To produce a manual that is both brief and sufficient is an accomplishment indeed—and the author is to be congratulated. It is not that one feels justified in commending a laboratory manual to the attention of practitioners, but here is such a book as will prove both profitable and interesting reading to those who wish to "brush up" on Pharmacology.

Mechanically, the book is well above the average.

M. F. DeL.

PSYCHOLOGY OF THE NORMAL AND SUBNORMAL.

PSYCHOLOGY OF THE NORMAL AND SUBNORMAL. By Henry H. Goddard. New York, Dodd, Mead and Company, 1919. 349 pages. Illustrated. 8vo. Cloth, $5.00.

This splendid treatise is the work of a man who is a born teacher, one who has devoted years to the study of the feebleminded. One of the great drawbacks to the study of the old psychology has been the fact that the subject has been the adult mind. The biologist and zoologist in their work always choose the simplest forms at first and then graduallv trace their development into more complicated types, but the psychologist has usually started with the highest type of mental evolution, the adult mind, with the consequense that introspective psychology has always been an exceedingly difficult subject for the student. In the feeble-minded, we encounter individuals whose neuron patterns are relatively few in number and whose associations are comparatively simple, so that a study of their mental processes becomes much more easy than the bewildering complex of the normal adult brain. Goddard, through his long experience with the subnormal mind, has gained a remarkable insight into psychology, and he has the power of communicating his message in the simplest and most delightful way. Its simplicity is a marked antithesis to most of the older well known works on psychology, one in particular the reviewer has in mind of which it was said that no one except God and the author knew what it was all about. The type is large and clear, the illustrations are profuse and of good quality, and there is an excellent summary at the end of each chapter. The book is altogether satisfactory and it is a pleasure to endorse it.

VENEREAL DISEASES.

PRACTITIONER'S MANUAL OF VENERAL DISEASE WITH MODERN METHODS OF DIAGNOSIS AND TREATMENT. By A. C. Magian, M. D. St. Louis, C. V. Mosby Company, 1919. 215 pages. Illustrated. 8vo. Cloth, $3.00.

This brief work of some two hundred pages presents in concise academic form the symptoms, diagnosis, and modern treatment of chancroid, gonorrhoea, and syphillis. It contains many practical points of value intended for the general practitioner.

The author devotes considerable space to the management and care of the tabetic patient with methods of re-education in locomotion and coordination of movement, using illustrations from Frankel.

The surgical aspects of venereal complications are not considered. Contrary to the opinion of many, the author gives the irrigation treatment of urethritis considerable preference over the self hand injection method. Included in the writer's armamentarium is a novel two-way urethral irrigating nozzle which appears to be a distinct advantage over the one-way glass type. The historical references are interesting and instructive.

Augustus Harris.

DEVELOPMENT OF X-RAY PLATES.

SYSTEMATIC DEVELOPMENT OF X-RAY PLATES AND FILMS. By Lehman Wendell, B. S., D. D. S. St. Louis, C. V. Mosby Company, 1919. 78 pages. Illustrated. 8vo. Cloth, $2.00.

A short thorough and concise expression of proper dark room operation. The author lays particular stress upon the accuracy and precision of plate and film development often over looked by X-Ray experts and describes in detail the tray, factorial and tank methods, strongly favoring the latter. There is a degree of completeness pervading throughout indicating profound knowledge and thoroughness in detail of photography so necessary for successful X-Ray results. The common error of overlooking the proper temperature of the developing solution is thoroughly discussed and made capital of.

A special final chapter dealing with the making of lantern slides by contact and projection methods completes the monograph.

This book is especially deserving of recognition for those radiographers lacking knowledge of photography and is not amiss on the shelf of the experienced roentgenographer to impress the importance of accuracy of dark room technic upon his laboratory assistants.

Milton G. Wasch.

PATHOGENIC BACTERIA AND PROTOZOA.

TEXT-BOOK UPON THE PATHOGENIC BACTERIA and PROTOZOA. By Joseph McFarland, M. D., Sc. D. Ninth Edition. Phila. & London, W. B. Saunders Company, 1919. 858 pages. 330 Illustrations 8vo. Cloth, $4.75.

Dr. McFarland deserves great credit for having practically re-written his "Bacteriology" while under the stress of army duty and producing such an admirable volume. The entire field of pathogenic bacteriology and protozoology is covered comprehensively and the result is an excellent text-book for students and physicians who are not seeking an exhaustive treatise. We commend the brevity and conciseness of descriptive matter and call attention to the many excellent illustrations.

It would not be fair, under the circumstances, to criticize Dr. McFarland for failing to include some recent research in a work of this character but we would be pleased to see later text-books make some mention of such new fetaures as the relation of bacterial growth to the H-ion concentration of media, the effect of dyes on such growth and the relation of amino acids to bacterial nutrition. We are approaching a new era, one of more intensive cultivation and study of bacteria and it is time that the general principles underlying the new research were discusser in text-books reaching the mass of the medical public, for they never see the special articles which are written only for the elect.

E. B. Smith.

BOOKS RECEIVED.

Books received for review are acknowledged promptly in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases review notices will be promptly published shortly after acknowledgment of receipt has been made in this column.

PSYCHOLOGY OF THE NORMAL AND SUBNORMAL. By Henry H. Goddard. New York, Dodd, Mead and Company, 1919. 349 pages. Illustrated. 8vo. Cloth, $5.00.

PRINCIPLES AND PRACTICE OF PHYSICAL DIAGNOSIS. By John C. DaCosta, Jr., M. D. Fourth Edition. thoroughly revised. Phil. & London, W. B. Saunders Company, 1919. 602 pages. Illustrated. 8vo. Cloth, $4.50.

ORTHOPEDIC AND RECONSTRUCTION SURGERY, INDUSTRIAL AND CIVILIAN. By Fred H. Albee, A. B., M. D., Sc. D., F. A. C. S., Lieutenant Colonel, M. C., U. S. A. Phila. & London, W. B. Saunders Company, 1919. 1138 pages. 804 Illustrations. 8vo. Cloth, $11.00.

SYPHILIS. A treatise on Etiology, Pathology, Diagnosis. Prognosis, Phophylaxis, and Treatment. By Henry H. Hazen, A. B., M. D. St. Louis, C. V. Mosby Company, 1919. 647 pages. 160 Illustrations. 8vo. Cloth, $6.00.

PRACTITIONER'S MANUAL OF VENERAL DISEASES WITH MODERN METHODS OF DIAGNOSIS AND TREATMENT. By A. C. Magian, M. D. St. Louis, C. V. Mosby Company, 1919. 215 pages. Illustrated. 8vo. Cloth, $3.00.

SYSTEMATIC DEVELOPMENT OF X-RAY PLATES AND FILMS By Lehman Wendell, B. S., D. S. St. Louis, C. V. Mosby Company, 1919. 78 pages. Illustrated. 8vo. Cloth, $2.00.

PRACTICAL ORGANOTHERAPY The Internal Secretions in General Practice. By Henry R. Harrower, M. D., F. R. S. M. (Lond.). Glendale, Cal., The Harrower Laboratory, 1920. 268 pages. 12mo. Cloth, $2.50.

LONG ISLAND MEDICAL JOURNAL

VOL. XIV. APRIL, 1920 NO. 4

THE ROENTGEN RECOGNITION OF GALL BLADDER DISEASE.*

Charles Eastmond, A. B., M. D.

Brooklyn, New York.

FOR many years the detection of gall stones and their demonstration on an X-ray plate has been the height of the Roentgenologist's ambition. There have been but few Roentgenological problems which have aroused as much discussion pro and con as this subject. The difficulties of the examination and the hitherto unsatisfactory results have caused much pessimism among many, while increased experience and judgment together with improved methods of examination have kept up the optimism of those whose careful work has brought about better results.

It is to be remembered that many individuals carry gall stones for years without knowledge of their presence or discomfort from them.

Gall stones are the terminal product of gall bladder inflammation and infection. Therefore, while it is of value and importance to discover their presence, it is of even greater importance to determine the presence of gall bladder disease and its complications before calculus formation.

CALCULI. Direct evidence of concretions is the demonstration on the X-ray plate of their presence through local variation of density produced by calculi themselves. This local variation of density may be in the form of negative or positive shadows. By negative shadows is meant that the local density is less than that of the surrounding tissue; by positive shadow that the local density is increased.

Chemical composition plays a most important part in the production of the contrast on the X-ray plate necessary for diagnostic purposes. This is especially true in the case of gall stones.

Calculi of pure cholesterin are rarely if ever observed through the production of local areas of *increased* density. It has been claimed by some that the recognition of this type of calculus has been accomplished however through its so-called "negative density." If a

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* Read before the Medical Society of the County of Kings, December 16, 1919.

Roentgenogram is made of an extirpated gall bladder containing concretions, the calculi will frequently be observed to possess less density than the surrounding medium (Fig. 1). Applying this to the X-ray plates of the patient under examination, the persistence of a local area of diminished density within the shadow of the visible gall bladder may be correctly assumed to be diagnostic of gall stones provided all sources of error have been excluded. The dimin-

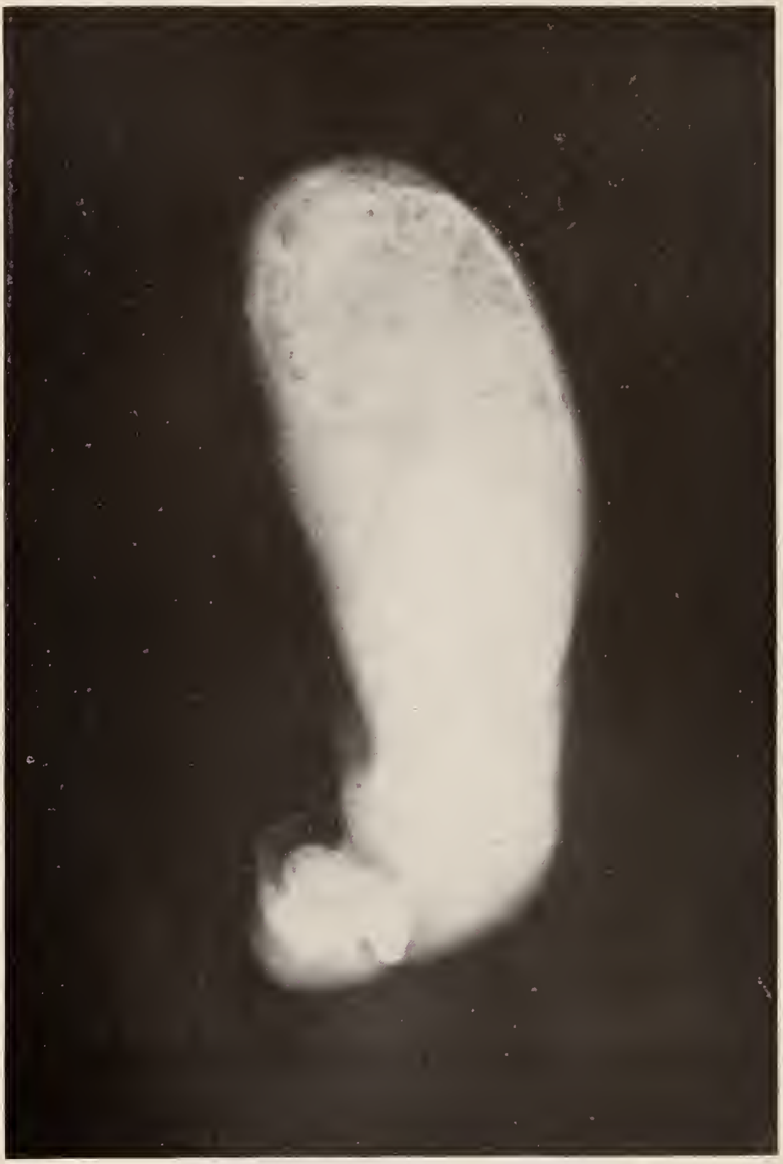

Fig. 1. Extirpated Gall Bladder, showing concretions in lower part of less density than the surrounding medium.

ished shadow in these cases is due to the displacement of the denser gall bladder contents by the less dense calculi.

It is calcium that produces the positive shadows of gall stones. The appearance of the stone and the degree of density will vary in accordance with the distribution of the lime salts and the amount present. Large calculi, that is, relatively large ones frequently have the lime deposited about the periphery and consequently produce the well known and characteristic annular or ring-like shadow (Fig. 2). Others may have small scattered deposits through the concretion and cause a speckled appearance simulating a collection of grains of wheat. These two types may be present in the same stone. Still others, especially in those persons well along in years, may be so dense from uniform lime deposit that they will have the homogeneous appearance of renal calculi (Fig. 3).

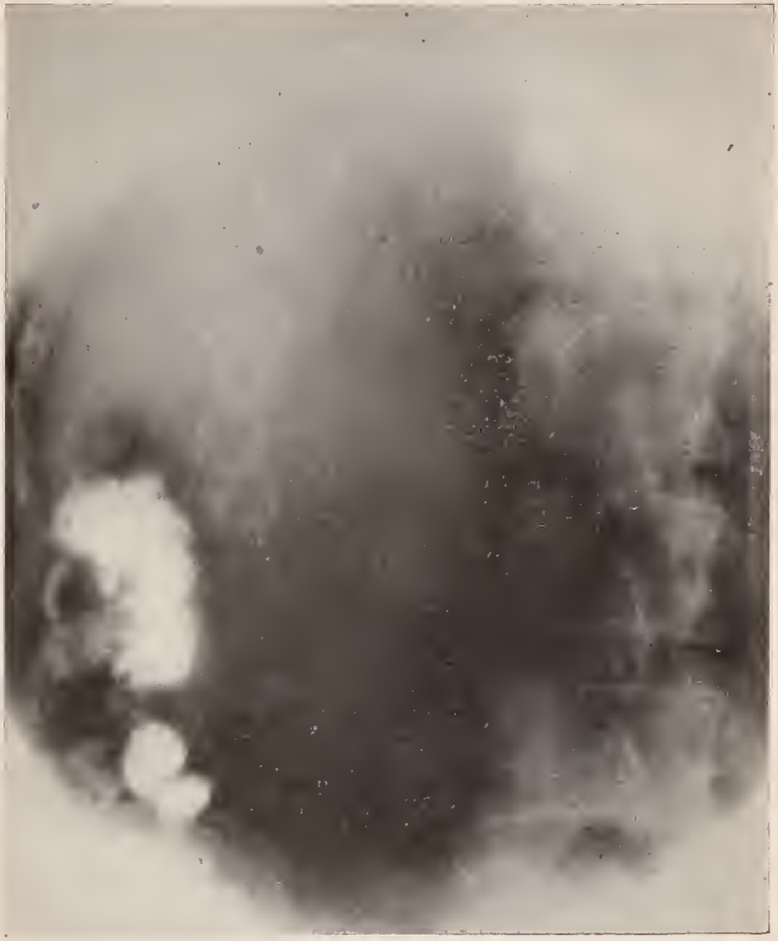

Fig. 2. Chain of four Gall Stones presenting typical annular appearance.

It must be remembered that the shadows of most gall stones are faint and that the average X-ray plate may not show them.

Many plates of varying degrees of density must be taken and these must be viewed with different degrees of illumination if one would not let essential shadows escape detection.

The visible gall bladder, is it pathological per se? Does the mere possession of a gall bladder of density sufficient to show on the X-ray plate necessarily indicate that it is diseased? Different observers express different views based on their own experiences. George, of Boston, has now maintained for several years that the visible gall bladder is inherently pathological even though the operating surgeon may say that it is normal to all external appearances. George's experience has been very large and he has been checked up by surgeons and pathologists of repute. This has been learned from his work—the gall bladder that seems normal to the surgeon may be proven much diseased by the pathologist. Other Roentgenologists of note have reported that gall bladders which gave dense shadows on the plate have been found normal at operation. Can the surgeon at the operating table determine by mere inspection and palpation

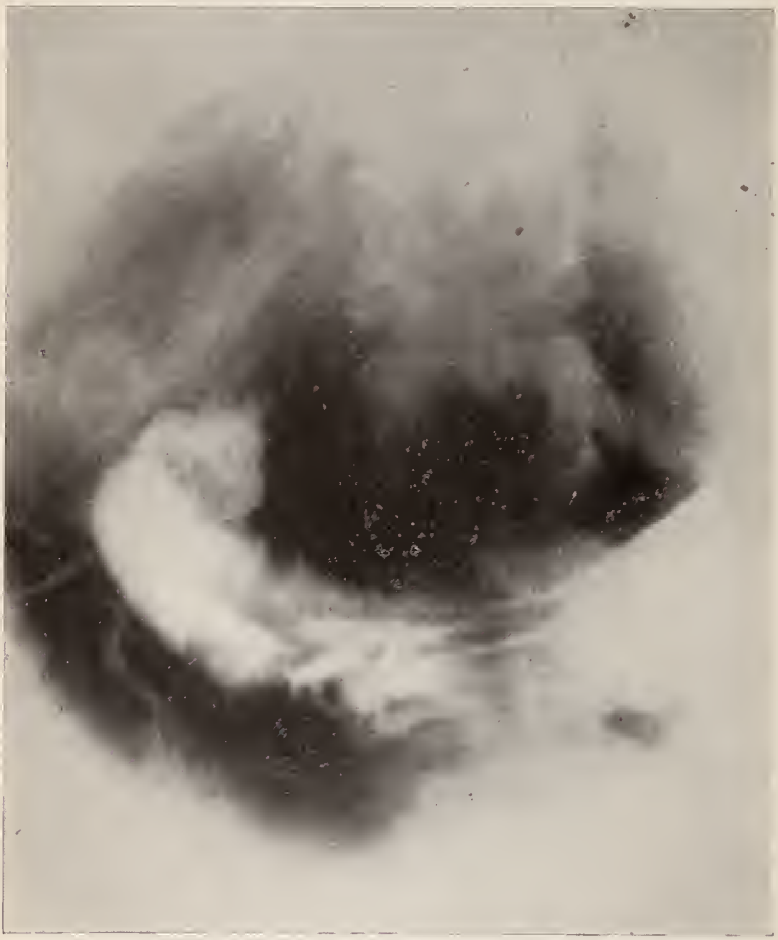

Fig. 3. Solitary gall stone containing a large amount of lime salts.

whether it is normal or not? Many a surgeon had failed to recognize the presence of a gastric ulcer because there was no external manifestation of it while the evidence on the X-ray plates was unmistakeable. It is now generally accepted that unless the interior of the stomach is examined, the surgeon has not excluded the existence of an ulcer. It is equally reasonable, in the presence of Roentgen evidence of gall bladder disease, to demand that the surgeon shall not form his opinion from a mere palpation of the organ and the inspection of its *outer* surface.

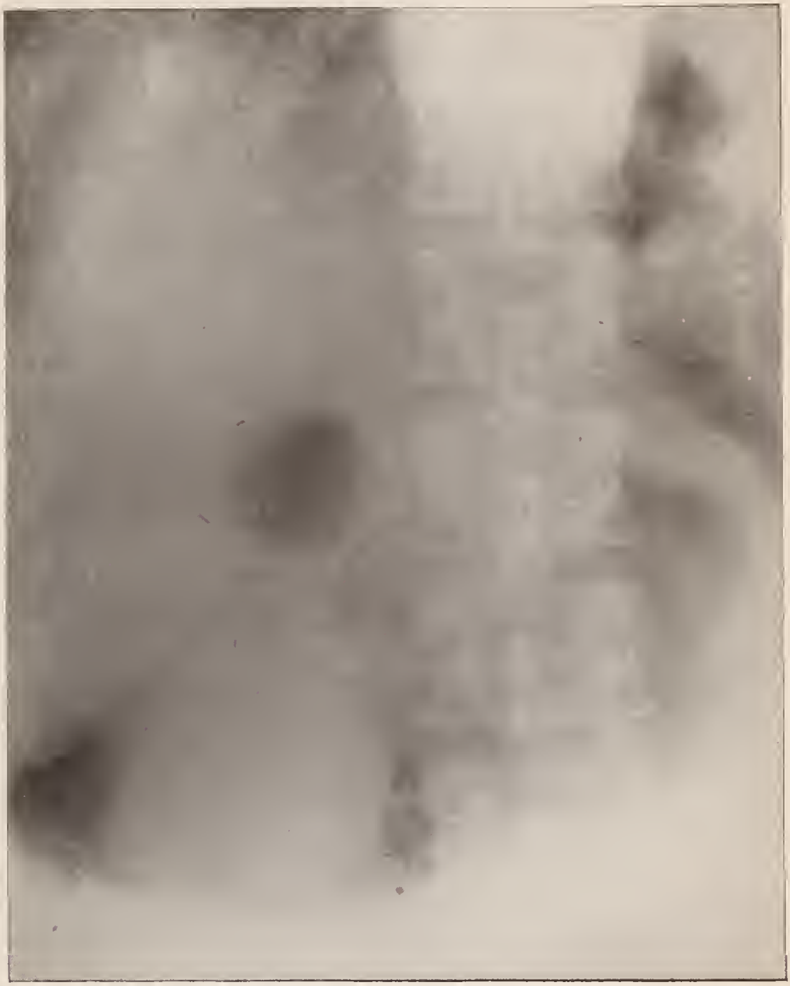

Fig. 4. Large visible gall bladder with bubble of air in the duodenum.

From my own experience, and I believe that I will be borne out by many Roentgenologists, the visible gall bladder is found to be pathological in such a large proportion of cases that it is fair to conclude that this is the case and the diagnosis may be made accordingly (Fig. 4). In the recognition of a visible gall bladder the greatest care must be exercised that the shadow which is considered to be of the gall bladder is truly the gall bladder and not a small kidney or a faecal mass in the transverse colon.

It must be remembered that the diseased gall bladder is not always visible on the X-ray plate. The size of the patient may prevent its demonstration. It may be obscured by being covered only by an enlarged liver or it may be shrunken to a very small size. Under these conditions other measures must be resorted to. These procedures comprise what may be termed the INDIRECT or INFERENTIAL METHOD. While this method *is* indirect and inferential, at the same time it is of the greatest importance and is extremely reliable.

It is carried out by a study of the gastro-intestinal tract and recognition of alterations or variation from the normal appearance, whether it be abnormality in the contour or of the course of the affected part of the tract. These variations may be functional or reflex as observed in the stomach; or the result of adhesions secondary to an underlying inflammatory state—local peritonitis, which in turn has been brought about by disease of the gall bladder.

STOMACH. The changes appearing in the stomach are those of spasm, more or less constant, and may affect the pars cardia as pointed out by Case and others or it may be limited to the prepyloric area. The spasm of the upper part of the stomach is usually in the form of an incisure more or less deep, most frequently of the greater curvature, of the same type as is observed in certain cases of ulcer. In the presence of such a defect, the question of ulcer must be most carefully excluded and this sign cannot be relied upon to too great a degree. It is of value only in adding to the sum of the evidence. The second reflex condition of the stomach that lends suspicion of gall bladder difficulty is the presence of a spasm of the pylorus or of the prepyloric portion. Associated with this there is an abnormal emptying of the pyloric antrum. In many gall bladder cases it is noted that peristalsis is diminished to a marked degree, sometimes seemingly absent. The characteristic change in the antral emptying contracture is that instead of having the typical peristaltic contractions extending right to the pylorus, the terminal three or four inches of the stomach will empty in the form of a broad general contraction involving the entire periphery of the part. In no other condition have I observed this phenomenon.

Adhesions may involve the pyloric extremity of the greater curvature so that it is held excessively high and to the right (Fig. 5).

PYLORUS. Pyloric affections found in connection with gall bladder disease occur in the form of adhesions. The pylorus, itself, may be angulated with displacement of the cap to the left, or it may be drawn up so that it is vertical instead of horizontal and faces to the right. Under such conditions, the cap would be to the right and lie horizontally. Associated with this fixation, the pyloric sphincter is often seen in a state relaxation or incompetency, so that the stomach contents pour out at an abnormally rapid rate.

CAP. (First portion of the duodenum.) The changes found here are not pathognomonic by any means but at times are the only indication of gall bladder disease. These changes are either a general contraction by which the cap retains its characteristic form but is reduced in size, or a very marked irregularity of form from adhesions. The general contraction may be so marked that the cap is reduced to the size of a pea. The irregularity from extraneous adhesions may cause the cap to assume almost any form, but the upper part is the portion most frequently affected. The irregularity is often transitory, merely spasm. The distortions thus produced must be most carefully differentiated from those of ulcer and while the differentiation may usually be made with ease, at times it is impossible from the *local appearance alone* to determine which condition is present.

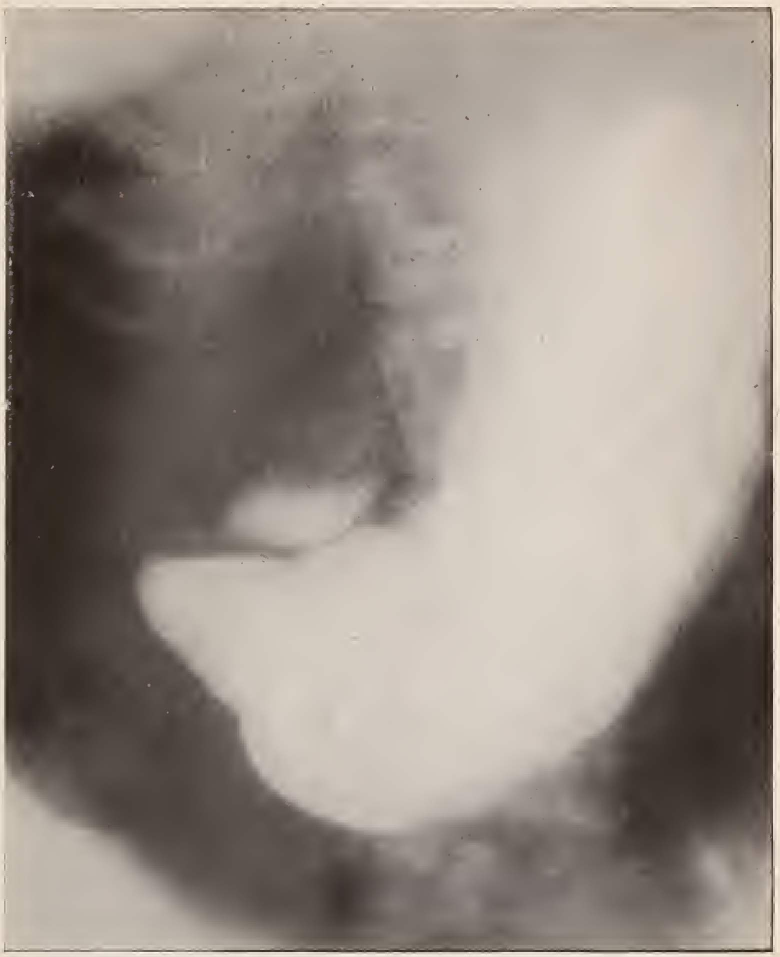

Fig. 5. Adhesions of the pyloric end of the stomach, drawing it to the right with displacement of the cap to the left.

PRESSURE EFFECTS. Pressure effects of the gall bladder may be observed upon the outer side of the cap or the extreme pyloric end of the greater curvature of the stomach, whether the gall bladder be visible or not. These consist of smooth, oval or circular indentations of the lumen of whatever part may be pressed upon (Fig. 6). The size and form of the indentations found, gives very accurate information as to the size of the gall bladder. Most of these indentations are permanent because of fixation to the gall bladder, while at other times they may be proven to be transitory, and to occur only when the patient is in certain positions. I do not believe a normal gall bladder will produce this effect, and I feel that it may be assumed that when such an appearance is observed, the gall bladder is pathological.

SECOND PORTION OF THE DUODENUM. The manner in which this structure is affected is a change in its course that varies from the normal. This change, which is very characteristic consists in having the second portion of the duodenum course outward along the under surface of the liver for a varying distance instead of having it pass directly downward and backward from its normal point of fixation to the liver (Fig. 7).

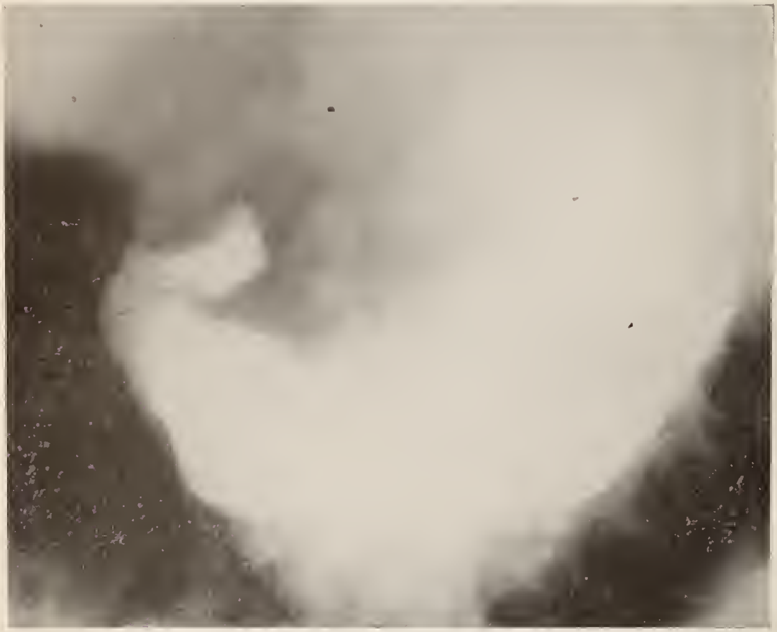

Fig. 6. Visible gall bladder producing pressure upon the cap.

COLON. Colonic variations from the normal indicative or at least suggestive of gall bladder disease are the presence of abnormal fixation of the hepatic flexure or of the proximal part of the transverse colon to the under surface of the liver (Fig. 8). Not only is the part immovable as demonstrated by fluoroscopic manipulation but constancy of position with change of position of the patient from prone to erect will also demonstrate the condition. An absence of the normal incisures of the colon in the adherent area is confirmatory evidence.

To some of you, it may seem that it has been superfluous to have gone into the details of pathology shown on X-ray examination for gall bladder disease, but it was done deliberately. In the first place, it demonstrates the extent of the examination that is often necessary; and in the second place it brings before you and emphasizes the fact that gall bladder disease is not purely local in its effect to a considerable degree the functioning of many parts of the gastro-intestinal tract. It must be remembered that the secondary effects produced upon the gastro-intestinal tract are of the greatest importance, often more so than the primary gall bladder disease. As symptom-producing factors these secondary changes often cause disturbances of such severity that it seems as if the gastro-intestinal tract is primarily at fault and the gall bladder is consequently overlooked. Indigestion, as the term is loosely used, is often cholecystic in origin and unless the clinical aspect of the case points directly to primary gastro-intestinal disease, the gall bladder should always be examined for possible trouble.

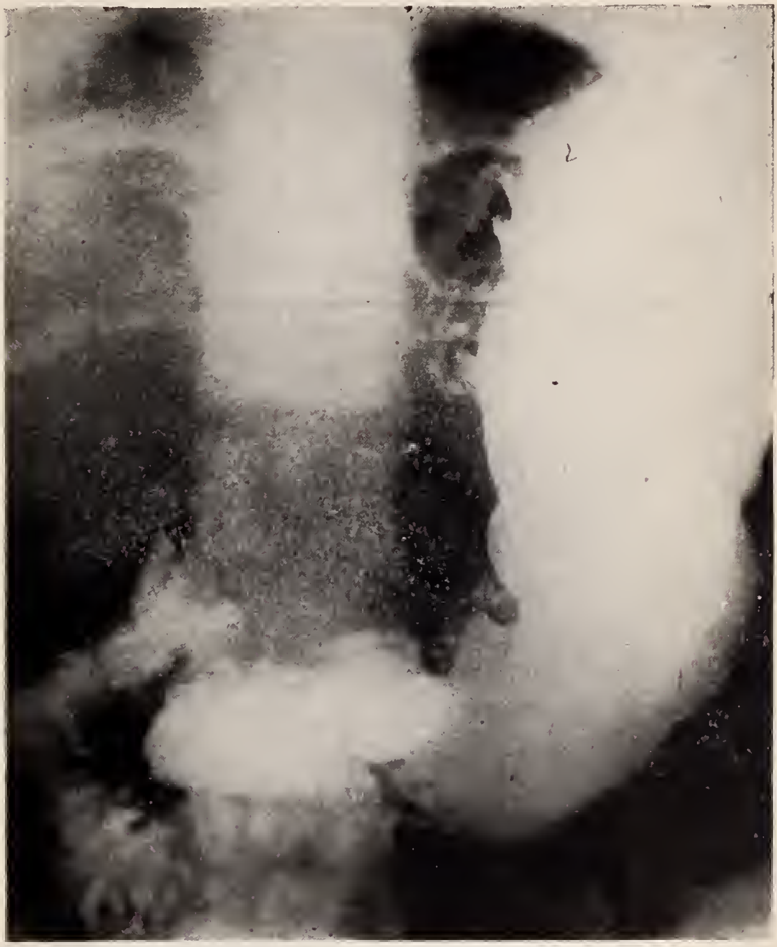

Fig. 7. Adhesions of the second portion of the duodenum from gall bladder disease.

In conclusion the following summarization may be made:

1. Gall bladder disease may be diagnosticated by Roentgen examination in the vast majority of cases.
2. At a conservative estimate, according to the best observers,

gall stones may be shown in 40 to 50% of the cases in which they are present.

3. The demonstration of the gall bladder on an X-ray plate is distinct evidence of pathology.

4. The evidence of characteristic gall bladder adhesions is of more clinical value than the determination of gall stones without adhesions or symptoms.

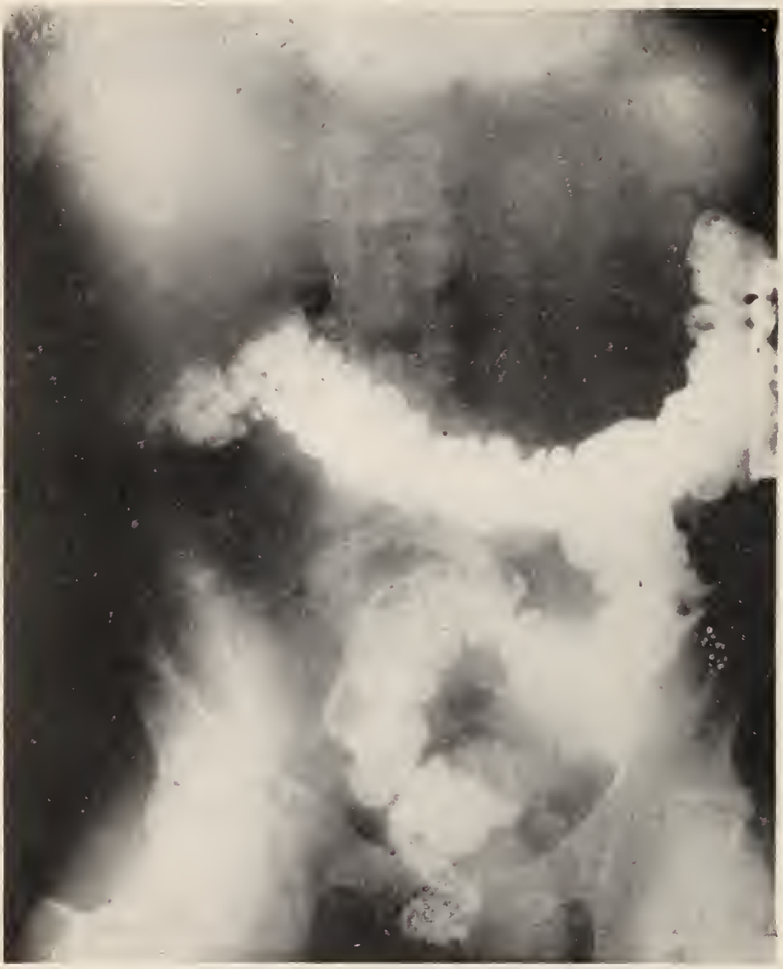

Fig. 8. Adhesions of proximal portion of the transverse colon from gall bladder disease.

5. To obtain this necessary indirect evidence it may be necessary and it is usually desirable to examine the entire gastro-intestinal tract.

6. It must be remembered that in drawing conclusions of gall bladder disease from INDIRECT evidence, the diagnosis must not and cannot be based upon any one point, but must be the result of deductions derived from the sum of all the evidence obtained.

LIBRARY OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS—HOW TO USE IT AND MEDICAL LITERATURE IN GENERAL.*

By Charles Frankenberger.

Librarian, Medical Society of the County of Kings.

Brooklyn, New York.

THERE is a two-fold purpose in having your Librarian come before you this evening. The first is to give some idea of the contents and arrangement of the material contained in our Library and the second is to explain as briefly as possible how to find out what we have and how to consult it and how to proceed to do research work in medical literature.

All the books in our Library have been catalogued and shelf-listed, forming two separate and distinct catalogues, one by authors and the other by subjects. By consulting our card catalogue in the Reading Room a reader can find out at once if we have the work he or she desires by looking under the Author's name or under the title of the work when it is a composite work written by a number of writers. The card catalogue is alphabetically arranged and the cards under a given author's name are arranged alphabetically according to the titles of the publications he has written.

The books are classified or grouped under subjects by the use of a numerical classification system, especially adapted for our Library which was worked out by my predecessor. The books are grouped under main subjects such as Anatomy, Pathology, Physiology, etc. Main subjects are again subdivided into a more detailed classification, where the number of works upon any one branch warrant a separate grouping, by using the letters of the alphabet in conjunction with the classification number for the main subject. For example: 25 is the number in our classification for Materia Medica and Therapeutics and among the subdivisions are such headings as

25A	Counter-Irritation,
B	Hypodermic Medication,
C	Inhalation
D	Serumtherapy
E	Transfusion
F	Prescription-Writing

Books are arranged on the shelves in the stack room in groups or divisions in the numerical order in which they are listed in the classification. Under each division or subdivision the books are arranged alphabetically by authors. A key to our classification system showing the subject headings it includes, alphabetically arranged, with the classification number opposite each heading, hangs to the right of our card catalogue cabinet.

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* Read before the Medical Society of the County of Kings, December 16, 1919.

Members only have the privilege, upon application to the Librarian or his assistants, of direct access to the shelves in the stack room where they can look over the entire collection of works we have upon any subject. Others wishing to know just what works we possess on a particular subject, for example, Pediatrics, will find them indexed under classification No. 97 in the shelf list. By the shelf list we have reference to a card index of the books as they stand upon the shelves classified by subjects according to the numbers in our classification system. In other words, the shelf list may be considered a catalogue by subjects of the books contained in our Library. Prior to a year and a half ago the shelf list cards served exclusively as the subject catalogue of our books. Since that time the books added have been catalogued under subjects as well as under authors. By cataloguing each individual work under its own subject headings a more detailed and useful subject index is possible than that afforded by the shelf list. At present these subject cards are being kept separate, but they will eventually form a part of the author catalogue making it a combined author and subject catalogue in one alphabetical index. Our subject headings are based upon those used in the "Index Catalogue," which we believe is the most comprehensive and practical for efficient medical library service. We do not index, either under author or subject, the periodical literature. This field is covered by the "Index Catalogue of the Library of the Surgeon General's Office" and the "Index Medicus," the use of which will be explained at another place in this paper.

There are no doubt a large number of our members who are not aware of the size of our collection and the amount of space required to house it. Our fire-proof stack room of three tiers, in which the bulk of our collection is kept, is filled to overcrowding. In the stack room, in addition to the arrangement of the books already referred to, are kept all our periodical publications, except the current year or volume, arranged alphabetically by title under the countries in which they are published. A special card index is kept up to date showing what we have and what we lack of all periodical publications. In the stacks are also to be found transactions of societies; government publications; health and hospital reports; medical school catalogues and announcements and miscellaneous publications. Our pamphlet collection, partially arranged by authors, is temporarily housed in the "Journal Room" on the top floor for want of space in the stack room.

The new books received by purchase or otherwise are kept on file for a reasonable time in the Reading Room in order that those using the Library can keep in touch with the more recent accessions. A list of these new books and more important pamphlets and government publications added to the Library is published from time to time in the folder entitled "Library Announcements," which is sent to each member as issued. The form in which this folder is published makes it convenient for members to file for future reference as to current additions to our collection.

In the Reading Room are kept, alphabetically arranged, the files of the current year or volume of the bulk of the periodical publications in English received regularly. In the foreign periodical room, next to the Librarian's office, which is also used as our cataloguing department, are kept the current files of the periodicals in other languages received regularly.

At the present time the Library receives or subscribes to 542 periodical or serial publications, exclusive of government and state and local health publications. These are grouped by languages as follows:

English	407
French	23
German	52
Italian	11
Spanish and Portuguese	40
Norwegian	2
Swedish	3
Danish	1
Japanese	2

All well regulated libraries, of necessity, have certain rules which must be complied with if they are to render the greatest amount of service to the largest number of readers and in the case of our Society to all members alike.

The members of the Society have the privilege of taking out books and our rules in this regard are more liberal than in some other large medical libraries. The newest books and numbers of periodicals for the current year or volume are only permitted to be taken out from the afternoon of one day to the morning of the next or in case of Sundays or holidays over these days. All other books and journals, except reference works and rare books, can be taken out for a period of two weeks and at the end of that time, if a request is made and the books have not been asked for, they can be renewed for a further period of two weeks. The privilege of taking out books and periodicals does not depend on whether we have a duplicate or triplicate copy, but the primary copy is permitted to go out. A member doing research work, requiring the consultation of a large number of volumes, can take out up to ten volumes at a time for a period of one week.

Any books or periodicals, except the newest publications and journals of the current year, not contained in our Library, can be borrowed from the Library of the Surgeon General's Office at Washington, if they have them, for a period of two weeks. The transportation charges to be borne by the Society when the borrower is one of our members. With what our Library possesses and this privilege of obtaining what we do not have from the Surgeon General's Office, the largest and most complete medical library in the country, it is possible for us to supply almost every demand made upon us if the member can await the time required in transit.

With our limited staff of two assistants in addition to the Librarian it is not possible in a library the size of ours to carry on the daily routine work and at the same time do the reference work that would be requested from a membership of almost a thousand. This could be done only in a measure even if a reference librarian was employed which is not possible with the present income of the Society and the many vital needs of our Library. In fact, other large medical libraries with much greater incomes and working forces do not do reference work as a part of their service to members and readers. In most cases where members desire this work done arrangements are made with some member of the library staff to do it on their own time at the expense of the individual. In Washington and in other places there are professional bibliographic research workers who do reference work, abstracting and translating at regular rates per hour. The Librarian and his assistants are ready to help any member or consultant of our Library to get started in doing their own reference work by showing them how to use the various indexes to medical literature. For the sake of convenience and saving of time, any member sending in a list of references giving, in the case of books, the name of the author, title of the work, place and year of publication and where periodicals, the correct title, year, volume number and page, they will be gotten ready for the time he indicates he will be in to refer to them, or they will be supplied immediately if he wishes to consult them at once. Your Library staff is desirous of rendering every possible assistance to the members of the Society.

It was thought that it would not be amiss at this time to make a few remarks on how to proceed to look up the literature on a particular subject.

The reason why so many members of the Profession do not do more literary research work themselves is no doubt due to the fact that they do not know how to begin or do they have any knowledge of the various bibliographic indices which are the keys to the literature of their Profession. This condition is largely the result of lack of training upon this phase of their medical education. In our medical schools today no systematic instruction is given the students during their entire four years in medical bibliographic research. If a few lectures could be given to the seniors some time before their final departure from the college by some one experienced in methods of bibliographic research in medical literature it would be a valuable addition to the cultural armamentarium of the future practitioner. This thought was emphasized by the writer in a paper entitled "The Value of the Medical College Library to the Student," read before our national Medical Library Association in 1914 (1) In the years following the completion of his interneship, when he has considerable time for work other than attending to his practice, the young physician with a knowledge of how to do bibliographic research work can, during his leisure hours, improve his mind in an instructive and interesting manner and at the same time increase his income. His energy along this line will be rewarded with opportunities on the part of men of the Profession who are too busy to do their own reference work. That there is an enlarging field for this kind of service has recently been emphasized by Dr. Fielding H. Garrison (2), in the following statement: "The need for medical men who will specialize in medical bibliography and history, and devote themselves exclusively to medical journalism and medical literature, is becoming more apparent every day.

Mrs. Mellish (3), Editor of the Mayo Clinic and Dr. F. Robbins (4) of New York City have also stressed the opportunities for and need of medical men who will devote themselves to research work in medical literature.

It depends upon what the investigator has in mind as to what sources he shall consult to obtain the literature desired. If he wishes only to read some of the latest articles upon a special subject his quickest method would be to use the "Quarterly Cumulative Index to Current Medical Literature," a special publication issued by the American Medical Association. This "Index" is published four times a year. Being cumulative, each issue includes all references in earlier numbers of the current year. The fourth or last number includes the references for the entire year. It does not pretend to cover the entire field of medical literature, but gives references to the articles contained in about 200 of the more important American and foreign medical periodicals. For example, let us assume that our investigator wishes to read some of the more recent papers bearing upon the Internal Secretion. In Number 3 of this "Index" for the current year under the heading of Secretion, Internal, he will find thirteen references to articles on this subject giving the titles of the papers, names of the authors, titles of the periodicals, volume number, page, date of issue and year. Authors and subjects are arranged in one alphabet. At no time in the year is it necessary to consult more than one alphabet to learn what articles have been written by a certain author or what articles have been written on a given subject during the year. It is also useful in expeditiously finding the reference where one remembers only the author's name and about the time of the year the article was published.

If, however, the investigator wishes to make a thorough search of the entire field of medical literature to obtain the references to all the cases reported upon a particular subject, his most expeditious and systematic method would be to consult the "Index Catalogue of the Library of the Surgeon General's Office" at Washington. Just what is the "Index Catalogue"? It is a combined index of authors and subjects, arranged in dictionary order in a single alphabet, of the literature contained in the Library of the Surgeon General's Office at Washington. This library, of almost 250,000 volumes and 360,000 pamphlets, maintained by our Government, is the largest medical library in this country and the second largest in the world, surpassed only by the library of the Paris Medical Faculty. Its collection of periodicals is the largest and most useful in existence. It subscribes for or receives regularly practically every medical periodical published, numbering nearly two thousand. These, together with the books, pamphlets, dissertations and theses received, are all indexed under authors and subjects in the "Index Catalogue." A volume has been published annually beginning with 1880 until the entire alphabet was completed, followed by a second series beginning the alphabet over again and containing the additions since the publication of the first series. A third series is in course of preparation but the publication of the volumes has been somewhat delayed because of the war.* The First Series of sixteen volumes and the Second Series of twenty-one volumes (37 volumes in all) contain practically every item of any real value to medical science from the earliest times down to the date of the publication of the last volume, 1916. The Medical Profession of the entire world is indebted to the late Dr. John S. Billings for developing and bringing into existence this indispensable publication. "It furnished the basis of a medical literary development in our country and in our language which has never been fully realized." Dr. William H. Welch, at a Billings Memorial Meeting in May, 1913, expressed the opinion that the "Index Catalogue" is the most important contribution yet made to American Medicine (as distinguished from laboratory and clinical contributions of Americans to medical science) in the nineteenth century."

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* Volume 1 of the Third Series, including A—Army, was received shortly after this paper was read.

Let us infer that our investigator wishes to look up the literature on "Enlargement of the Thymus Gland." In Volume 14 of the First Series of the "Index Catalogue," under the heading: Thymus gland, Diseases of, he will find listed all the books and journal articles published prior to the date of the publication of that issue of the "Catalogue," 1893. Under the subject headings books, pamphlets, dissertations and theses are listed first in alphabetical order by authors and are printed in roman type. Theses and dissertations are indicated by an asterisk * inserted before the title. In the case of books, the name and initials of the author is given, followed by the title of the work, size of book, place of publication and date. The references to the articles in periodical and serial publications immediately follow the book titles and are printed in nonpariel type. They are arranged alphabetically by author, followed by the title of the paper, the name of the periodical in which it is published, place of publication of the periodical if not included in its title, year, volume, and pages in it which the article covers. The title of each book or article is given in the language in which it is printed. In giving the page numbers which each article covers an idea can be had at once of its extent.

To get the literature published since 1892, our investigator will take volume 18 of the Second Series of the "Index Catalogue," published in 1913, and in this series he will find the subject of Thymus gland subdivided into a larger number of subdivisions, one of which is Thymus gland, Hypertrophy of. Under this heading, following the same arrangement as in the First Series, he will find references to the literature published from 1892 to 1912 and any publications prior to 1892 which may have been omitted under the subject in the First Series or acquired by the Library subsequently. He now has covered the literature from the beginning to 1912. As it will be quite a number of years before the subject of Thymus gland is reached in the Third Series, his next course to pursue in order to get at the literature since 1912 will be to take the annual volumes and current numbers of the "Index Medicus."

The "Index Medicus" is a monthly classified record of current medical literature, published by the Carnegie Institution of Washington, based upon the material contained in the Library of the Surgeon General's Office and made up from the same cards that are used in compiling the "Index Catalogue." Each number of the "Index Medicus" covers the entire field of medical literature for the month printed on its cover. Each month's issue has a table of contents in front, classified as far as possible upon the latest accepted views in medicine. As soon as possible, upon the completion of each volume, a comprehensive index of authors and of subjects is published. The subject index is elaborately subdivided and the classification adopted closely resembles the subject headings used in the "Index Catalogue." Now to proceed to get our references to date on the "Enlargement of the Thymus gland" our investigator will take the annual volumes of the "Index Medicus" beginning with 1913 and in the subject index in each volume under the heading Thymus gland, Hypertrophy of, he will find the names of the authors who have written upon this subject and the page number in the volume, in each instance, on which the reference will be found. When he has completed the annual volumes he will take the numbers issued of the current year and by referring to the table of contents in each number under the subdivision "Diseases of the Thymus Gland," which is grouped under the main heading of Medicine, he will find the literature for the month indicated on each number. He has now covered the most complete index that is available of the medical literature of the world.

There are other reference works which might be consulted as they frequently contain references to cases reported in discussions at medical society meetings, which are to be found only in the reports of the proceedings published as a part of some periodical. In many instances these out of the way cases are referred to only in the exhaustive bibliographies and abstracts contained in the various German "Jahresberichte," which prior to the war, were published upon a number of the different branches of medical science, some monthly, but mostly annually. In addition to the extensive bibliographic lists published in these "Jahresberichte," signed abstracts are given of many of the references listed. When a periodical containing the original paper cannot be obtained or is printed in a language the investigator does not read he can often find abstracts that may give him a sufficient summary of the original article to satisfy his purpose. For abstracts in English he would find very useful the "International Abstract of Surgery" published supplementary to "Surgery, Gynecology and Obstetrics" and the new periodical published in England by the Medical Research Committee entitled "Medical Science Abstracts and Reviews."

If one wishes to review the recent developments in the science of medicine he will find the following Yearbooks, published in our own country, of interest and value:

"Progressive Medicine" (4 volumes per year).
"Practical Medicine Series of Yearbooks" (8 vols. per year).
"International Medical Annual" (1 volume annually).

There are many interesting points in connection with our Library and its contents that could be mentioned if time permitted. Among its treasures are 23 volumes of "Incunabula" by which we mean medical works printed prior to the year 1500. They have no utilitarian value today. The possession of them greatly adds to the cultural tone of our Library and they are interesting historically and greatly reverenced by the medical historian and biblophile. Our Library is also rich in its collection of material bearing upon local and general medical history, thanks to our own Doctor William Schroeder.

You have a library and a building of which you may well be proud and which should receive a larger measure of your personal interest and consideration. With its estimated number of 75,000 volumes, it is believed to rank as the fifth largest medical library in the country. It will, however, soon be surpassed by other smaller libraries rapidly coming to the top, unless some definite move is made to increase its income for the purchase of books, periodicals and binding and provision is made for its future growth and maintenance. Its most urgent needs are a Library Endowment Fund and larger quarters.

If we take into consideration the completeness of our collection and the large amount of new material that is being added constantly it is remarkable what has been accomplished and is being accomplished with the very limited income available for the purchase of books and journals.

The past progress of our Library we must ascribe to the devotion, unselfish labors and liberality of men who are now either gone or are the seniors of the Profession of this city. The younger members of the Profession, who are stepping into the places being vacated by those passing out, have done little in addition to paying their annual dues. The income from this source alone is not sufficient to maintain the splendid foundation reared and fostered by the forefathers in the Medical Profession of Brooklyn.

The responsibility of the future growth, value and perpetuation of this magnificent Temple of Medicine rests upon the younger men in the ranks of the Society and the Profession today. It is gratifying to be able to report that some of the younger members have recently evidenced appreciation of what their elders have done and have begun to assume the increasing responsibility devolving upon them.

There is a great amount of material, both books and periodicals, which we do not receive and which we should have. These can only be secured as additional funds are provided for them. In closing let me sound the clarion call, "Carry On."

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TRACHOMA IN PALESTINE.

Joseph Krimsky, M. D.

Brooklyn, New York.

TRACHOMA is widely prevalent throughout Palestine. It affects all classes and races in every locality but thrives and flourishes particularly among those living under unsanitary and unhygeinic conditions, amidst filth and squalor and poverty and overcrowding. Under such conditions and in such environment the disease is very widely disseminated involving, in many districts, by far the largest percentage of the population. Young infants and children even when but a few weeks old are especially prone to become infected with trachoma. Most of them are generally attacked during the first two years of life when the tender conjunctival mucous membrane is keenly susceptible to the traumatizing irritations of dust, dirt and excessive sunlight preparing the soil for the invasion and development of the trachoma infective agent.

Among the various racial groups residing in Palestine extensive examinations reveal the fact that the village Arabs furnish the highest percentage of sufferers. I have visited many of these Fellach or peasant villages. They are built of baked mud and dung. Each hut consists of a large square room. Light and air struggle in through the doorway which is usually the solitary aperture into this human abode. Here dwell men, women and children and a part of the interior is also used as shelter for the young goats and sheep. The cooking is done over a heap of charcoal or dried thistles and thorns and the smoke ascends to the thatched roof.

The filth is indescribable and the flies are uncountable. I have gone through these villages and have examined their people by the hundreds and the thousands. The normal eye is a rareity and the percentage of trachoma ranges from 70 per cent to 100 per cent.

The Bedouin Arab, leading a nomadic life, wandering about with his flocks and herds and his tents of black goats' hair and plated rushes is considerably less afflicted with trachoma. He leads a cleaner, healthier life than his village brother or the native townsman. His home is not so fly-infested for it is the great, windswept, wideopen outdoors under the transparent ethereal blue by day, under the star-studded sky by night.

The swarthy Yemenite Jews coming from the southern extremity of the Arabian peninsula and living in unspeakable wretchedness have acquired a trachoma percentage very close to that of the village Arabs. The same applies to most of the native or Sephardi Jews, descendants of the Spanish refugees who have fled to these sacred shores from the Inquisition and the Auto-da-fé.

The Ashkenazi Jews, hailing from Russia, Poland, Austria and Romania present, in the main, a lower trachoma percentage which however varies in proportion to the length of residence in the country and is also largely determined by the environment. In the colonies settled by the newer element, young men and women, many of them university graduates, the normal eye is the rule and trachoma the rare exception, while on the other hand, among the charity recipients of Jerusalem, Tiberias and Safed the trachoma average ranges from 50 percent to 75 percent. It is also interesting to note that investigations among the settlers in the German Colony at Haifa has elicited almost a total absence of trachoma, notwithstanding the fact that their Arab laborers and domestics are nearly all affected. This phenomenon can undoubtedly be accounted for by the personal cleanliness and superior living conditions of these "Templers."

Examination among the schoolchildren reveals the fact that the percentage of trachoma is lower in those schools where the children come from homes that are materially higher—homes where the rules of cleanliness and simple hygiene are observed and where overcrowding and the lack of proper nourishment do not prevail.

On the other hand, in schools, Talmud Toraha and kindergartens situated in the very poor and squalid districts where the children are unclean, unwashed and underfed, coming from homes where soap is a priceless luxury and water scarce and scanty and a clean towel an unknown quantity the percentage of trachoma rises very high. In such homes it is quite usual to find all the members of the family, from the nursing infant to the half blind grandfather affected with trachoma in its various stages.

Trachoma is essentially an insidious and chronic disease though very frequently it has its onset during or following an attack of acute conjunctivitis. I have on numerous occasions observed all the evidences of trachoma in a conjunctiva after an attack of Koch-Weeks inflammation where previous to the conjunctivitis the mucous membrane had been perfectly normal. Similarly have I observed cases of trachoma, moderate or dormant, becoming severely aggravated by an attack of conjunctivitis. This is particularly noticeable with the onset of summer, the rise in temperature and the advent of the early epidemic eye infections in May and June.

I commenced my work in Jerusalem in the midst of the hot dry summer. Water was only obtainable from the cisterns constructed under the houses and in the courtyards to conserve the winter rainfall. There are seven thousand of these cisterns in the Holy City and each one of them was a breeding place for the anopheles mosquito and a hotbed of malaria. Thanks to the efforts of the American Zionist Medical Unit and to the generous application of petroleum many of these malaria reservoirs have been rendered innocuous. The streets are very dusty and the slightest breeze fills the air with the fine chalky irritating powder. I treated an average of four hundred eye patients in my clinic daily and the vast majority of them were suffering from purulent conjunctivitis caused by the Koch-Weeks bacillus. A great many also came with corneal ulcerations produced by the gonococcus. The annual epidemic of gonorrhoeal ophthalmia commences in July and sweeps the land. It is non-venereal in origin and is spread by filth and dust and flies in the same manner as the earlier epidemic of Koch-Weeks conjunctivitis. The onset of the first light rains in October marks the cessation of the epidemic opthalmias. And then we gather in an abundant harvest of destroyed or damaged vision due to corneal opacities, or shrunken sightless eyeballs caused by perforation and rupture of the cornea.

Among the thousands of patients who visited my clinics in Jerusalem and later in Tiberias on the shore of the sacred Sea of Galilee I found two out of every hundred blind either in one or both eyes, and the vast majority of these are traceable to gonococcal ophthalmia superimposed on trachoma.

With the decline in the summer temperature and the advent of rain the epidemic ophthalmias subside and we are enabled to turn our energies and efforts to the repair of the damage done and to the operative treatment of the endemic, widely prevalent and severely aggravated trachoma.

Ordinarily when a case of trachoma is first discovered we find the conjunctiva studded with granules and marked by papillary hypertrophy. In some cases the granules and in others the papillae predominate but usually both pathological processes are mingled together. The mucus membrane is congested and hyperaemic and is excreting a muco purulent discharge. A later stage in development reveals a thickening of the tarsal cartilage particularly of the upper lid and the commencement of cicatrization. The granules or follicles undergo degeneration and necrosis, lines of scar tissue from around them pressing them outwards and frequently discharging their contents through the thinned and ruptured mucous membrane.

As the cicatrization advances it produces a curving and a bending inward of the tarsus, a condition called entropion. With that there is likewise a development of trichiasis—a distortion of the eyelashes and the proliferation of new hairs pointing towards the eyeball. The misdirection of the eyelashes and the inversion of the lids by its friction causes a roughness and loss of transparency of the cornea. Simultaneously with that there may also occur an extension of the trachomatous process from the lids to the eyeball. New bloodvessels spread from the limbus over the normally avascular cornea which has now become infiltrated and hazy and presents the pathological picture of pannus. Occasionally this process causes the coats of the cornea to become weakened to such a degree that they yield to the intraocular pressure and bulge forward producing keratoconus and anterior staphyloma.

As a final stage we find many deplorable cases of xerosis and excessive dryness of the conjunctiva and cornea due to the destruction of the normal elements and their replacement by cicatricial and degenerative tissue.

During these progressive stages of trachoma the vision becomes increasingly impaired until finally zerosis bulbi it is often completely destroyed. Trachoma is an extremely infectious disease, the contagion existing in and being disseminated by the discharges and tears from the diseased eyes. This is important for us to bear in mind particularly in our work in the schools where the little patients with eyes that are secreting profusely and lids that are plastered with thick pus and covered with hordes of flies are a grave source of danger to the others. In the vast majority of the schools and kindergartens in Palestine there are no facilities, or very poor ones, for washing the faces and hands. A common metal cup and basin are used and the water is obtained by plunging cup, hand, forearm and sleeve into a huge earthenware jar in which the precious fluid is stored. A dirty grimy towel does duty for all and serves many purposes. Myriads of flies flit from face to face and the wonder is that the Lord Almighty has still been able to keep a few, a very few, eyes uninfected.

Taking equal rank with the school as a medium for the spread of trachoma is the home. Our examinations and statistics have demonstrated that trachoma is preeminently a family and school disease, and every individual affected is a menace to the community. Moreover by producing a gradual and increasing impairment of vision it incapacitates the individual for useful and selfsustaining occupation.

The very insidiousness of its onset and development makes it a graver danger and many persons afflicted with the disease do not apply for treatment until an attack of acute conjunctivitis or gonorrhoeal ophthalmia brings them to the clinic. They may, and in most instances do, go on for months disregarding symptoms which to more civilized and sensitive eyes would be painful and annoying. They are ignorant of their own malady while transmitting it to others. This was the greatest difficulty I had to cope with in my work in Palestine and this holds true for every other land where trachoma is epidemic.

During the summer months when the epidemic ophthalmias were raging our clinics were clogged with hundreds of patients. But as the tide of ophthalmia receded we had to almost subpoena our patients to compel them to continue their regular treatment.

What did this treatment consist of? We divided our trachoma cases into four categories.

Stage I—The very beginning of the infection, and if acute, is always a mixed infection, characterized by extreme redness, swelling of the lids and purulent discharge.

Stage II—The stage of granule formation and papillary hypertrophy. There is still abundant discharge which makes these two first stages extremely contagious. We check the discharge by daily applications of silver nitrate. I commence with a 4 per cent solution and as the inflammatory manifestations subside I gradually reduce the strength of the solution down to 1 per cent. After about two weeks of this regular treatment the discharge has markedly abated or almost completely ceased and the lids are ready for more vigorous and radical treatment. The conjunctiva is anaesthetized by massaging it with pledgets of cotton moistened with adrenalin solution and dipped into powdered cocain. Then with a small, semicircular and very sharp-bladed knife I gently scarify and curette the granular mucus membrane, both tarsal and transitional. Next I express the soft granules with a Knapp roller forceps and finally I rub the mucous membrane vigorously with a small tooth brush moistened in 1-500 oxycyanate of mercury solution. A boric acid ointment is applied and the eyes are protected from the light and dust. Thereafter for about a week or two the patient is treated daily with silver nitrate in the clinic and at home with boric acid wash and 2 per cent protargol drops until the inflammatory reaction has completely subsided. The treatment is now changed to massaging the conjunctiva once or twice weekly with 1-500 oxycyanate of mercury solution until the mucous membrane is perfectly smooth and clinically normal, which may take a period of three to six months.

Stage III—In the ordinary course of events under inadequate or belated treatment trachoma tends to its pathological termination by necrosis of the follicles, degeneration and cicatrization of the mucous membrane subconjunctival tissue and tarsal cartilages with a variety of complications and sequelae resulting therefrom. In the third stage we find the commencement of cicatrization and we can considerably modify the pathological process and hasten the course toward a more nearly normal termination by expression of the granules and massaging of the conjunctiva with 1-500 oxycyanate of Mercury. Even in cases where expression is no longer indicated by reason of the advanced cicatrization the regular treatment by massage with the oxycyanate will show very gratifying results both in the lids and in the subsidence of the corneal pannus. I always cocainize the conjunctiva before applying the treatment. There is practically no after pain but rather a relief of symptoms. I regard this method as far superior to the use of the copper sulphate stick which I have discontinued altogether.

Stage IV—is the final pathological termination of the trachoma with complete cicatrization of the lid, with degeneration of the mucous membrane, and with the complications and sequelae of pannus entropion, trichiasis, xerosis, chronic dacryocystitis etc. These cases are legion in Palestine and the only treatment for them is prompt and thorough operation wherever there is still a spark of hope.

As I have already pointed out previously, trachoma in Palestine attacks the youngest children and infants and the campaign against it must therefore be carried on in and through the home, school and kindergarten primarily. This must consist first and foremost in the providing of abundant running water in the home and school and in the inculcation of rigid cleanliness. Periodic monthly examinations of all the school children by an oculist and daily treatment of those affected by competent school nurses is essential. Children with discharging eyes should be excluded from school and treated by the nurse at home together with other members of the family requiring treatment.

This was the system and method by which I carried on my work with the assistance of some American and several Palestinian nurses among the Jews and wherever possible also among the native Arabs, despite great difficulties and lack of facilities but nevertheless with a certain measure of success, in Jersualem, Hebron, Tiberias, Safed, Haifa, Beersheba and the Colonies.

In carrying on this school and kindergarten work I found that the children in the younger classes show a much higher percentage of active trachoma than those in the older classes. I also found in the older classes many cases of trachoma which have undergone a cure under proper treatment and occasionally cases which have had trachoma and have become completely cured without any cicatricial traces of the disease a phenomenon which is clinically observable and is explainable by the regenerative powers of the young and tender conjunctival mucous membrane. We likewise meet unfortunately, with a large number of eyes bearing the effects of pernicious forms of treatment, an example in point being the numerous cases of argyrosis, the conjunctivae being frequently stained black by the abuse of silver nitrate solutions in the hands of ignorant apothecary-oculists.

The educational feature of our antitrachoma campaign should consist of lectures to the public and of leaflets distributed among them warning them of the contagious nature of the disease and prescribing simple precautionary measures.

During the summer vacations systematic examination and treatment must be continued particularly in view of the highly prevalent epidemic summer ophthalmias aggravating the existing trachoma and very frequently preparing the soil for its invasion in previously normal mucous membranes. During these months I found an excellent prophylactic in the daily instillation into the eyes of a lukewarm 1-10000 solution of oxycyanate of mercury.

Sprinkling the streets to allay the dust and the planting of shade trees are valuable aids in the prophylaxis.

The following is an outline of a plan which I have submitted for the systematic study and eradication of the trachoma evil in Palestine.

1. *Permanent Hospitals* in Jerusalem, Jaffa, Beersheba, Haifa, Safed and Tiberias. The Jerusalem eye hospital shall be the central headquarters for the entire country. It shall be fully equipped for research and operative work and shall have a capacity of at least fifty beds. The five remaining minor centres shall be established on a smaller scale, shall accommodate from ten to twenty-five patients each and shall be well equipped for the performance of trachoma operative work. Each hospital shall also conduct a daily outpatient clinic. Branch clinics shall also be established in city districts situated at a distance from the hospital.
2. *Travelling Ambulances* for work among the villages and colonies. Each ambulance shall carry a physician and a nurse and instruments and equipment for the performance of ordinary operations.
3. *Systematic* examinations and daily treatment in the schools workshops, asylums and other institutions.
4. Supervision of infected homes. By such organized, systematic work and effort shall we reduce and ultimately eradicate the plague of trachoma in the Holy Land.

And not alone trachoma but the epidemic ophthalmias, as well, shall diminish and exact a lesser and lesser toll in defective vision and in blindness.

Eye operations performed by me during one year of service in Palestine:

Cataracts	32
Ulcer of Cornea (Grafting of conjunctival flap)	7
Plastic operations for trichiasis and entropion	166
Optical Iridectomy (for cornea opacity)	115
Glaucoma (iridectomy 6, sclerotomy 1, cyclodialysis 1, trephine),	12
Pterygium	12
Tatooage of corneal opacity	10
Enucleation of eyeball	7
Dacryocystitis (excision of sac)	5
Chalazion	5
Orbital cellulitis	2
Anterior staphyloma (ablation)	1
Strabismus	8
Ptosis (Panas operation)	2
Cicatricial Ectropion	2
Trachoma (excision of diseased tarsus and conjunctiva)	135
Trachoma (expression of follicles)	353

MINUTES OF THE TWENTY-SECOND ANNUAL MEETING
of the
ASSOCIATED PHYSICIANS OF LONG ISLAND.

The Twenty-second Annual Meeting (Sixty-fifth Regular Meeting) of the Associated Physicians of Long Island was held at the Methodist Episcopal Hospital, Brooklyn, N. Y., Saturday, January 31st, 1920. The Business or Executive Session was called to order by the First Vice-President, Doctor Henry Goodwin Webster. Owing to limited time and the multiplicity of other matters of importance to come before the meeting, the reading of the minutes of the October, 1919, meeting was omitted, by general consent.

Report of the Membership Committee.

The Membership Committee presents the names of the following applicants for the consideration, and action, of the Society at this meeting.

PROPOSED BY DR. JOHN JOSEPH CAHILL.

Dr. Clifton Bogardus, 539 *Fifty-third Street, Brooklyn, N. Y. Albany* 1912.

PROPOSED BY DR. MARTIN M. KITTELL.

Dr. Michael M. Schultz, 10 *Villard Ave., Hollis, N. Y.*

PROPOSED BY DR. JAMES COLE HANCOCK.

Dr. George Stephen Silliman, Westbury, N. Y. Albany, 1908.

Dr. Chester Ford Duryea, 784 *Carroll Street, Brooklyn, N. Y. Jefferson* 1901.

Dr. Wilbur Carlton Travis, Northport, N. Y. Long Island College Hospital 1913.

Dr. John Byron Shotwell, South Huntington, N. Y. University of Maryland 1893.

Dr. Benjamin M. Bernstein, 183 *Kingston Avenue, Brooklyn, N. Y. University and Bellevue, New York,* 1915.

Dr. Henry Monroe Moses, 108 *Prospect Park West, Brooklyn, N. Y. Long Island College Hospital* 1904.

Dr. John Waluk, 161 *North Sixth Street, Brooklyn, N. Y. Albany* 1914.

Dr. Samuel S. Brown, 844 *Lafayette Avenue, Brooklyn, N. Y. Long Island College Hospital* 1888.

Dr. Harry D. Bucalo, 164 *Suydam Street, Brooklyn, N. Y. University Virginia* 1915.

Dr. John S. Billings, Douglaston, N. Y. University of Pennsylvania 1892.

Dr. John Lawrence Both, Edgemere, N. Y. Albany 1912.

Dr. Henry Joachim, 871 *Park Place, Brooklyn, N. Y. Cornell* 1904.

Dr. Lamore H. Fisher, 1112 *Dean St., Brooklyn, N. Y. University and Bellevue, N. Y.* 1912.

The above applicants were, unanimously, elected to membership.

Report of the Historical Committee.

The end of the year indicates that the labors of the Committee for the year 1919 has ended and to present a report of the work performed during the year it may be that our prosperity has not been as great as in former years, still we have progressed.

During the year a number of our members have completed their life work among us, many of whom have been active members in our profession. All have been respected members of our City and Island and in token of appreciation of their work and in respect to their memory their names are here recorded.

Necrology for the Year 1919

Active and former members of the Associated Physicians of Long Island

Date of Membership		Date of Death
1917-1918	Nathaniel Meyer, M. D.	November 1918
1910-1919	John Edward Wade, M. D.	January 10, 1919
1908-1912	George Edward Henderson, M. D.	February 12, 1919
1910-1916	Francis Joseph Duffey, B. S. M. D.	March 31, 1919
1905-1919	Joseph Merzbach, M. D.	April 28, 1919
1899-1919	Samuel Hendrickson, M. D. Ex-President	May 20, 1919
1899-1919	Henri M. Auger, M. D. Ex-Treasurer	August 5, 1919
1912-1919	Herman Edward Street, M. D.	August 18, 1919
1906-1919	William A. De Long, M. D.	October 3, 1919
1901-1919	Stephen Henry Lutz, M. D.	October 17, 1919
1910-1919	Samuel Augustus Wood, M. D.	December 12, 1919
1906-1912	Franklin Bennett, M. D.	December 28, 1919
1911-1919	John P. Rowan, M. D.	November 27, 1919

During the year 1919 the names of forty nine physicians were presented for membership, representing the following named Universities and Medical Colleges

University and Bellevue	5	Albany Medical College	4
University of Pennsylvania	1	New York Homeopathic Medical college	10
University of Yale	1	College of Physicians and Surgeons, New York	4
University of Maryland	1	Bellevue Medical College	2
University of Cornell	3	Baltimore Medical College	1
University of Union	1	Jefferson Medical College	1
University of Minnesota	1		
University of Vermont	1		
Long Island College Hospital	13		

The Long Island Medical Journal has published, from time to time short obituary notices of our deceased members, which I feel have been gratefully received by the families and friends of our departed members.

Your Secretary has, at all times, assisted your Committee in the work of the Historical Committee, for which your Chairman, at this time, wishes to express his thanks.

And now, as a New Year is open before us, let us express the hope that it will prove prosperous for our Association, and happy to every member thereof.

Yours,
William Schroeder, M. D.
Chairman of the Historical Committee January 1920.

Report of Publication Committee.

The following report from the Publication Committee was presented by Doctor William H. Ross, Brentwood, N. Y., Chairman of the Committee:

Your Committee desires to report that the affairs of the Long Island Medical Journal are in good condition. During the early part of the year it was hard to get enough material, owing to the absence, in the War, of so large a number of contributing writers. Now there is no dearth of material and it is only a matter of selecting the best with which to fill the pages.

We wish to call your attention to the fact that the Journal has completed fourteen years of existence. Starting unknown and without reputation it has become to be known in almost every country of the world. This statement, doubtless, surprises you until we tell you that among its exchanges are more than seventy publications in foreign languages. "A prophet is not without honor, save in his own country."

The Journal has become the greatest feeding source of the great medical library of Brooklyn. This Library now receives, regularly, as a gift, journals 180 in number, sent as exchanges to the Long Island Medical Journal. Only two weeks ago two Medical Editors in Italy asked if they could not receive our Journal in exchange for theirs. Similar letters are of frequent occurence. The great majority of new books in the Kings County Medical Society Library comes from two sources, one of them, and the greatest one (the result of the work of reviewers) is the Long Island Medical Journal. It is, consequently, of large and increasing importance to the Library. We repeat, it is the largest single feeder.

Anything that can be done to put the Journal on a better basis will redound to the credit of the Associated Physicians of Long Island.

We feel that the last year has gone pretty well. Either the critics have diminished in number, or they have been less vociferous in their denunciations.

The Committee expects to see the Long Island Medical Journal grow into a scientific publication, knowing no sectarianism and recognizing every legitimate contribution to the progress of medicine and the betterment of the Profession. The Journal, as you all know, is entitled to hold its head higher than ever before. Since there has been an almost continual upward trend in the affairs of the Journal for fourteen years, the Committee feels that the time is about ripe to present to you the question of publishing a Journal of high scientific standard, and without advertising; and thereby reap the reward of this unique distinction shared by so few medical publications.

Do the more than 3000 doctors, serving professionally, more than 3,000,000 people, want, and will they pay for a journal unhampered by commercialism and independent of any medical authority superior to the Associated Physicians of Long Island? It is possible to do this. Let us look into it a little. We received this year $3300.00 for advertising. It cost up for clerical hire and publishing this about $1800.00, leaving $1700.00 to secure. Perhaps the Surgical, the Pathological, the Gynecological and other Societies of Brooklyn, N. Y. would pay us something for publishing their work, say $150.00 per year, each. Then, if we raised the dues $1.00 per year, we would be even again. We want to introduce the thought, to sow the seed; and, per chance, it will not fall on stony ground. We do not expect that you will be carried away with immediate enthusiasm. We make the suggestion to give you something to think about and to see whether you have simply passive interest or whether you would become real friends of a real Journal, second to almost none.

The report would not be complete without a formal statement of the cost of the Journal for the last eight years.

In 1912 it cost	$4,359.00
In 1913	5,280.00
In 1914	5,793.00
In 1915	4,260.00
In 1916	4,169.00
In 1917	4,946.00
In 1918	5,062.00
In 1919	4,722.00

These figures show you that there has been careful work done in the management of your Journal.

Though everything cost relatively little in 1914, the Journal in that year cost $5,280.00, while in 1919, with the high prices prevailing, the Journal only cost $4,722.00.

Speaking, now, not as the Publication Committee, but as members of the Society—are we sufficiently interested in the future of the Long Island Medical Journal to devote a little time to the consideration of its future policy?

You know it has increased in efficiency, in circulation, in general appearance and in quality, from year to year. It seems now to have a field that should warrant a broader development. The burden up to now, has been upon the Editor, a Voluntary Committee, co-operating and a few friends. To assure continued development the Journal must have the active counsel and advice of this Society. Men of vision, who are interested in the Journal's future, must step out in front and help determine what should be done.

During the coming year much can be done toward outlining a policy for the future. When this is formulated it can be submitted to the Society at large for final decision.

The retiring Committee wish to express their appreciation of your consideration and forgiving spirit, for their shortcomings. We hope that the new Committee will continue the enthusiasm that has prevailed and will kindly cherish the infant publication now growing into adult life.

Respectfully submitted
THE PUBLICATION COMMITTEE.
WILLIAM H. ROSS, Chairman
JAMES M. WINFIELD
FRANK T. DE LANO
HENRY GOODWIN WEBSTER (Editor)
EDWIN SYME MOORE
JAMES COLE HANCOCK.

Mr. President:

Your Secretary has to report that the Associated Physicians of Long Island has probably weathered the rather trying conditions of the past year, as well as could be expected.

The total membership at the present time is 910 Active Members and 8 Honorary Members. 254 of the Active Members are from Queens, Nassau and Suffolk Counties and 656 from Kings County. 65 new members have been added during the year and there have been eight deaths. 15 members have resigned.

The usual meetings have been held and well attended.

JAMES COLE HANCOCK, Secretary.

REPORT OF THE TREASURER

January 1st, 1919—January 1st, 1920

Balance on hand January 1st, 1919	$ 55.31
Received from dues	2331.00
Received from advertising	3347.33
Received from dinners	569.70
	$6303.34

EXPENDITURES

Paid Arthur H. Crist Company	$3115.39
Paid for Plates	160.05
Paid Editor	600.00
Paid Stenographer	720.00
Paid Editor Petty Cash	43.82
Paid George H. Carley—Postage	83.42
Cost of Medical Journal	$4722.68
Paid for Dinners	503.50
Paid Secretary Account	369.34
Paid Treasurer Account	230.94
Paid Kings County Medical Society	12.10
Total Expenditures	$5838.56
Balance on Hand	464.78
	$6303.34

EDWIN S. MOORE M. D., Treasurer.

At a regular meeting of the Associated Physicians of Long Island held at Sayville N. Y. June 28th, 1919, at which a quorum was present, the following resolution was presented by Doctor Harris A. Houghton of Bayside N. Y., was duly seconded and adopted by the Society, that: A Committee of Three be appointed by the Chair to investigate as to the Americanism of an article entitled "Medical Reconstruction" appearing in the Long Island Medical Journal for May 1919, and as to the Americanism of articles, by the author of "Medical Reconstruction," appearing in the Long Island Medical Journal for April 1916 and March 1918, and that this Committee report at the Meeting to be held in October 1919.

The Committee appointed by the President, Doctor William A. Hulse, was as follows: Doctors William E. Butler, Chairman, Arthur H. Terry and Elias H. Bartley.

At the Meeting held October 25th, 1919 Doctor William E. Butler, Chairman of the Committee, stated that the Committee requested more time in which to make the report and, by regular action of the Society, the Committee was given permission to continue the investigation and requested to report at the meeting to be held in January 1920.

At a regular meeting of the Society held January 31st, 1920, at which a quorum was present, the Committee, through the Chairman, Doctor William E. Butler, presented the following report, which was ordered received by the society and placed on file:

"Your Committee have read the writings of Doctor Warbasse with a great deal of care and have devoted a great deal of time to thinking about them. All contend they reflect on the Society in general and on the Medical Profession as a whole. Many statements are half truths rather than whole truths. While well written, under the veneer of well chosen language they are full of Socialism.

Of course an individual has a right to hold his own opinion but your Committee considers that he has no right to air the views in the Journal which is representative of the Society as a whole.

Many minds make up the Society and to meet the approval of all would be a difficult matter.

The first article appeared in April and before we entered the War. In it were various statements reflecting on the Government and on the American System of Government. The principal questions in that article related to Universal Military Training. We believe that the bulk of the Country holds the opinion that there should be some form of Military Training and that the Country should be prepared. Doctor Warbasse is opposed to all forms of preparedness and in his many talks in the Society has taken the stand that the pacifist takes and one which has cost the Country many lives and much treasure.

Your Committee believes that the great majority of the Society is in favor of some kind of training which will prepare us for any contingency that, "In time of peace we should prepare for war."

Doctor Warbasse's third article deals with Medical Reconstruction and takes up the subject from many points. The entire article however is based on the idea of Socialism and is an endeavor to bring the Society around to his views and makes for Socialism.

The assumption is clearly stated that this small group carries the brains of the world and that we know nothing of Socialism, and this group must teach us.

As most journals devoted to Bolshevism and Socialism are written in the Russian Language they have not been accessible to the ordinary reader.

In the article he brings the idea of the Soviet and the advanced Socialism forward. This your Committee recommends should be condemned and disapproved by this Society. Syndicalism he states is embodied in the Mayo Clinic but if the scheme were carried out as described by him it would be reduced to an absurdity. It would bring in all the people working in the Clinic, doctors, nurses, orderlies, janitors and scrub women. Holding a vote would entirely overturn the principle of the clinic which is run by the best brains obtainable. True, they have nothing to think of but the good of the patient, but the governing force is made up of the heads and is run on a business principle.

Doctor Warbasse's idea carried out to a logical conclusion would make every man his own doctor. There would be no incentive to work along original lines. All would be reduced to a common level. Doctor Warbasse would bring the Medical Profession out of the sordidness of the commercial business and would bring about the socialistic idea, making the producer and consumer one. On the one hand he preaches that the majority should rule and on the other the idea of Socialism, which in the minority, should be enforced.

In another place he speaks of force and revolution and he intimates that if we cannot reform by argument then force will be necessary.

We report that the articles written by Doctor Warbasse and published in the Journal have been un-American and have advanced ideas repugnant to our Constitution.

I might say, Mr. Chairman, that the question of bringing up expulsion of Doctor Warbasse has been suggested, and I may say further that there is nothing in the By-Laws that permits the expulsion of a member, so the Committee does not make any report on that and does not make any recommendation.

Under "New Business" the following resolution was presented by the Committee: That the views of Doctor J. P. Warbasse, as expressed in articles in the Long Island Medical Journal in the issues for April 1916, March 1918 and May 1919 are condemned and repudiated by the Society and that, in the opinion of the Society, the resignation of Doctor J. P. Warbasse would be acceptable. This, amended by Dr. E. H. Bartley to "would be conducive to the best interests of the Society," was passed.

The Chairman of the Nominating Committee, Dr. Frank T. De-. Lano, presented the following names as nominations to fill the offices for 1920.

President: Henry Goodwin Webster, M. D. Brooklyn, N. Y.
First Vice-President: Harris A. Houghton, M. D. Bayside, N. Y.
Second Vice-President: Hugh Halsey, M. D., Southampton, N. Y.
Third Vice-President: Joshua M. Van Cott, M. D., Brooklyn, N. Y.
Secretary: James Cole Hancock, M. D., Brooklyn, N. Y.
Treasurer: Edwin Syme Moore, M. D., Bayshore, N .Y.

The dinner, served at the Montauk Club, was well attended and thoroughly enjoyed. Very interesting addresses were made by the Hon. Regis H. Post, ex-Governor of Porto Rico, the Hon. Walter C. Burton, Postmaster of Brooklyn and the Rev. Father John L. Belford, of Brooklyn.

James Cole Hancock, Secretary.

DR. VINCENT CAMPISI.

By the tragic and untimely death of Vincent Campisi, St. Peter's Hospital has sustained a serious misfortune in the loss of the services of one of its most useful, loyal and promising junior attendants.

During his internship, Doctor Campisi proved himself to be of unusual ability, enthusiam and fidelity; later on, when he had received his appointment to the Visiting Staff, the value of these qualities was steadily augmented by his growing experience.

He had won the respect and regard of his colleagues by his sterling worth as well as by his obliging and lovable disposition.

The Visiting Staff of St. Peter's Hospital offers to his widow and family its deepest sympathy in their sad bereavement,—in which the Staff shares,—and its warm appreciation of Doctor Campisi's character as a man and a physicin.

By direction of the Visiting Staff,

F. C. Paffard,
L. M. Ryan,
H. Arrowsmith,
Committee.

April 16th, 1920

EDITORIAL

THE DEVELOPMENT OF THE HEALTH INSURANCE IDEA.

ON March the 5th Senator Davenport addressed the Civitas Club in Brooklyn on Health Insurance: a subject with which he has become identified, and for which he has sponsored bills in both the last and present sessions of the New York Legislature. The Senator laid great stress on the fact that an insidious propaganda against Health Insurance was being carried on by sinister influences; he then read an extract from a report of the British Medical Association favoring Health Insurance, and emphasized the following points: First, that 30% of the young men of the country were rejected for military service because of physical defects; second, that the Endicott-Johnson Company, one of the largest shoe manufacturing concerns in the country, had instituted Health Insurance as a part of their welfare system and had developed so strong a spirit of co-operation on the part of their employes as to materially increase their output, so that they had been enabled to distribute a large bonus among them. He dwelt at some length upon the splendid atmosphere that this company had succeeded in developing about their enormous plant, and further instanced another similar manufacturing concern where somewhat similar conditions prevailed.

He stated that physicians generally, misled by false propaganda reacting upon their peculiarly individualistic natures, were prejudiced against Health Insurance.

He pointed out that strained industrial relationships demanded some such plan, in order to better the understanding between employers and employed and argued that the State was a necessary party to such a plan and that compulsion was essential both to insure economy of administration and to insure the extension of the plan to include recalcitrant employers. He insisted that this State control would at most be only a light guiding hand upon the helm. Among his most applauded statements was his assurance that when Health Insurance was in full swing, as part of the general welfare program, there would be no more poverty, and that the charitable work which physicians now give in dispensaries would be altogether replaced by the paid visits assured under compulsory Health Insurance. He insisted that Health Insurance was a *principle,* although it is worthy of consideration that, in his opening remarks, he announced that some such *expedient* was necessary to reconcile Labor and Capital.

The essential claim of the supporters of Health Insurance is that a man of limited income cannot provide adequately for sickness because of his inability to pay for proper medical care; he loses time from his employment; and is deprived of a portion of his income that results in increased hardship to himself and his family; and that because of inadequate care there is much preventable illness and suffering, lack of proper development among his children and neglect of the hygienic measures that are considered so important in promoting increased health in the succeeding generations.

Now, to take up in some detail the arguments that Senator Davenport has advanced, let us first consider this much heralded 30% of defectives in the draft: defective vision, defective teeth, flat foot, hernia and cardiac disease furnish the over-whelming bulk of these rejections. A goodly number had tubercular troubles, many who were physically fit were neither tall enough nor heavy enough. As most cardiac troubles result directly from infections, finding their point of entry in the tonsils or elsewhere, as hernias are the result of anatomic defects; as bad teeth were unfortunately, far too often, permitted to remain in order that the applicant might escape military service, which was also true of flat feet; as the latter trouble is all too often the result of improper foot wear as well as occupation, it is hard to see that any compulsory Health Insurance law could be invoked to prevent the conditions which the draft presented, especially when it is remembered that fully as large a percentage of these cases was found among the sons of the well-to-do as among the poor. We may grant that it would be desirable to compel every boy to submit to regular medical examination, in order to prevent, as far as possible, the decay of his teeth and the development of constitutional diseases, but when it is recognized that these conditions persist among the intelligent and well-to-do, it shows how fallacious the Senator's appeal to the draft figures really is.

One must remind Senator Davenport that insidious propaganda is by no means confined to the opponents of Health Insurance; the proponents of this plan have been conducting a wide-spread propaganda for the last six years. They have recently added a Medical Journal to their list of weapons, and have more than once employed that method which is hardest of all to meet, the publication of part truths, and the selection of quotations which seem to show a meaning that is in fact the opposite of the context from which they are taken. No, the Doctors learned about propaganda from the Health Insurance forces themselves.

Neither is it fair to attribute to Health Insurance such results as have been obtained by the Endicott-Johnson Company. It is true that this great and wealthy corporation provides medical care for their employes, but the whole truth is that they virtually control the entire area in which their factories are, and they have found by providing good housing, sanitary surroundings, proper amusements, good schooling, and by interesting their employes by giving them a practical part in the control of their working as well as their living conditions, they have stimulated a spirit of co-operation that has resulted in contentment with wages that are smaller than the average, because living and working conditions are better. It is perfectly evident that the Health Insurance item supplies but a fraction of the truth in regard to this company and its work, and it is folly to urge upon the State the adoption of an experiment of which Health Insurance is the only factor involved, when the problem from the State's point of view must be enlarged to include State ownership of land, buildings, homes, amusements, food supply and wages in order that it may be at all comparable to the situation which the Endicott-Johnson Company has developed.

Although he quoted the British Medical Association as being favorable to Health Insurance, he did not quote from investigators of the English system, such as Dr. Wm. A. Brend, who says "The National Insurance Act is the most ambitious piece of Health Legislation ever carried through in this country. No previous measure has directly affected so large a number of persons, involved so great a cost, made such demands upon Administration, or been introduced with such lavish promises of benefits to follow: and no previous measure has ever failed so signally in its primary object."

As far as any effect upon doing away with poverty is concerned, no one knows better than Senator Davenport himself that that is a specious appeal to the emotions, because poverty is not a condition that can be remedied by taking a pill or being vaccinated or having ones tonsils removed. The factors that cause poverty are far too deeply rooted in human weakness and shiftlessness and ignorance and greed to be relieved by any means such as the proposed Health Insurance Act contemplates. One has but to acquaint themselves with the History of Medicine to realize that the free hospital and dispensary are the direct outgrowth of impulses that spring from the best motives of which the human mind is capable, and that they will continue just as they are continuing in England today, even if Health Insurance should become established here. This Health Insurance plan deals only with those who are willing to labor, and leaves out of all account the vast shiftless, reckless class, who live daily from hand to mouth, not from lack of employment but because they lack the intellectual equipment to do better.

It has been repeatedly urged that the State control would be but a trifling matter, because of the care that would be exercised against undue State interference. Surely Senator Davenport knows, as most physicians know, what the result of State control in the Workman's Compensation Law has done. It is notorious that many self-respecting physicians refuse their services under the Compensation Act, because of the failure of the State to safeguard their interests, and it is equally well known as a result of the Governor's investigation, that compensation for injuries has not supplied the working man with adequate surgical care, but that it has permitted domination of the situation by a commercial machine. It is folly to try to brush aside the arguments of physicians, nor is it fair to speak of them as temperamental and individualistic. Physicians know their work better than any layman can know it, and physicians know that no act so far suggested will provide for working people any improvement in medical care, which is the only ground upon which legislation of this kind can be urged.

Before closing this brief reply to the Senator's argument, there are two questions which should be put. Has State control in the case of the Public Service Commission produced such results as to warrant the Senator's optimism in regard to State control through compulsory Health Insurance; and has the extended experience with the health conditions of the Public School children been such as to warrant the belief that compulsory Health Insurance will in any way benefit their mothers and fathers? H. G. W.

SENATE BILL NO. 1111.

SENATOR Davenport introduced another draft of a Health Insurance Bill in the Senate on March 11, 1920, which is our good old friend, the Mills-Davenport-Donahue Bill thoroughly revised and enlarged, as the publishers would say. Its principle features are those with which the A. A. L. L. have bombarded us year after year, but modified in certain respects. For instance: there is no salary limitation, and apparently any one who is in employment, including domestics and farm laborers, irrespective of what their income is, may be included in the benefits of the Act. The initiative in regard to fees for Medical attendance apparently lies with the County Medical Society. It is provided that each County Medical Society may submit a schedule which is to be passed upon by the Chief of the Bureau in charge of administering the Act, and that an appeal may be taken in thirty days from his decision. The appeal shall be heard by a committee of five, two from the County Medical Society, one from the employers, one from the employees of the local that is affected, and a fifth appointed by the Governor. This arrangement does not give any control to the Medical members of the panel, and merely insures a suggestive minority vote. The Chief of the Bureau of Health Insurance shall be a legally qualified physician or surgeon appointed by and subject to the Industrial Commission, which is in turn appointed by the Governor. Every employee in the State shall be insured without a physical examination. As in previous bills, every insured person shall be entitled to receive as minimum benefits from the funds to which he belongs * * * medical and surgical attendance and treatment, attendance by visiting nurses, medicines and medical and surgical supplies; hospital or sanatorium treatment and maintenance; dental service; cash sickness benefit; cash maternity benefit; funeral benefit. In case a fund is unable to furnish the whole or any part of the benefit provided by this section, it shall pay the cost of such attendance, treatment or service actually rendered by competent persons at a rate approved by the Bureau. Apparently according to this section, a fund may permit expenditures for medical care without having adequate resources and then adjust the doctor's fees to accommodate its empty pocket book. The phraseology of the Bill seems to permit not only a cash maternity benefit for six weeks, but hospital expenses as well. Medical officers, who may not otherwise practice, shall be employed by the funds, singly or jointly, and apparently one fund may employ more than one officer, but no salary is suggested. This is a serious omission, as it is further on specified that the State shall be divided into districts corresponding to County divisions or otherwise, in which event a medical officer might have an enormous territory to cover, with no assurance of adequate pay. As in other Bills, it is specified that no district shall contain more than 5000 insured persons. It is also not made clear whether in the event of an employee being sick during a full maximum period of twenty-six weeks, the employer is expectd to contribute or not. These are a few of the doubtful points in a Bill that carries the constant menace of subjecting the medical profession to a form of State Socialism that is capable of rendering lasting harm through its control of sources of income.

There is an old fable of the camel that begged its master that it might put its head inside the tent for protection from the night and the cold, and having insinuated his head, he proceeded to follow it with his entire ungainly body, and finally ejected the unfortunate man from his own tent. The danger of introducing any form of State Socialism is just that: let in the head and the subsequent usurpation is easy. There is a particularly grim sort of humor in the situation when one considers the possible acceptance of practical Socialism of this type by a State Legislature that has just ousted five Socialists. H. G. W.

Society Transactions

CONTINUATION OF TRANSACTIONS OF SURGICAL SOCIETY OF DECEMBER 4, 1919.

Ruptured Ulcer of the Duodenum.

Charles F. Stratmann, M. D.

J. R., age 40 years; hat-maker by occupation; born in Poland. The patient was brought to the hospital Nov. 8, 1919, with a history of having fallen down on the way home from work. A policeman walked the patient to the hospital, because he refused to ride in an ambulance. The officer thought he had been run over by some vehicle.

It was impossible to get any history whatever from the patient, except that he was having great pain in his abdomen.

Examination—The patient is extremely restless, groaning and shouting out, complaining of terrible pain in his abdomen. The abdomen is extremely rigid, board-like, and tenderness is general. Temperature, 98; pulse, 80 and weak; respirations, 44 and catchy in character. Blood count, 18,000 white blood cells and 90% polys. The urine had a heavy cloud of albumin; no sugar and positive blood test, three-plus, for acetone.

A diagnosis of probable ruptured ulcer was made upon the severe abdominal pain and the board-like rigidity of the abdomen.

Operation—Median abdominal incision above the umbilicus. Abdominal cavity opened, with escape of turbid fluid. The stomach was not collapsed and the cardiac end was found to be normal. The pyloric end of the stomach and gall-bladder was covered with lymph. About one and one-half inches beyond the pylorus a perforated ulcer, about the size of a lead pencil, was found. A purse-string suture was put around the ulcer, and this was reinforced by two layers of sutures. One piece of iodoform gauze was put in for drainage. The wound was partly closed with layer sutures.

The second day after operation the patient got up out of bed and walked to the bath room. Several times during the next few days he removed all his dressings. But in spite of this, the wound healed up nicely and the patient made an uneventful recovery.

Before leaving the hospital, the patient said he never had any symptoms referable to the stomach before the day he enterd the hospital, was never sick before and could eat and drink anything without distressing him.

Dr. William H. Rankin:

"I would like to ask the doctor what the situation of that ulcer was. I did not catch it."

Dr. Charles F. Stratmann:

"It was situated about an inch and a helf beyond the pylorus or the first part of the duodenum.'

Injury to the Lower Epiphysis of the Tibia. X-Ray Plates.

H. Beeckman Delatour, M. D.

This plate shows an injury to the internal half of the lower epiphysis of the tibia sustained 5 years ago. After recovery the boy played on the street with the other boys and did everything that a child of his age would do. After the lapse of about 3 years the mother noticed that there was some little change in the position of the foot, but he made no complaints, going about, and nothing was done. This fall the position of the foot had changed very materially and he was walking on the outer side of his foot. The mother became disturbed by it and took him to an orthopedist, who examined it and criticised the original treatment, and drew a very pretty picture of a fracture going out through the inner half of the tibia from the joint, allowing the inner fragment to slip up. She came over to me after this in rather a critical state of mind and exhibited the picture which this gentleman had so carefully drawn for her. I examined the boy and found that his foot was inverted, and measurment from the anterior spine to the internal malleolus showed a shortening of just under an inch on that side. Measurement from the tubercle of the tibia to the internal malleolus showed the same amount of difference, so the shortening was entirely in the leg below the knee.

I had an X-ray taken then and I got this picture, which shows the position of the bones. The fibula is very much longer than the tibia and has taken a curve. The outer half of the lower end of the tibia has grown while the inner half of the tibia has failed to grow.

Here is a case in which apparently a very bad result had been obtained after a fracture of the lower end of the tibia, and a case in which there is a very fair chance for a malpractice suit to be instituted, except that it is practically outlawed, but these people have a picture presented by an orthopedist the way he has figured out what must have been, but what was not. The true condition really was an injury to the inner half of the lower epiphysis of the tibia, resulting in a failure of growth. The outer half of the tibia with the fibula continued to grow and as a result we have incurving of the foot.

We know that the lower epiphysis of the tibia does not become ossified until the eighteenth or nineteenth year, so that this boy has still four years to go before ossification and growth will normally cease. Occasionally, the anatomists tell us, there is a second center for the internal malleolus. There are two centers in the lower end of the tibia instead of one and possibly that is what exists here.

In the various special books on fracture the general statement is made that in the epiphyseal separation there is no interference with the growth of the bone. That has raised the question in my mind whether in this particular case the interference with the growth of the bone is not due to the fact that this boy had two centers in his epiphysis instead of one.

The growth of the fibula and the outer half of the tibia has produced deformity. If he had the same amount of shortening that he has now without the deformity, nothing would have ever been thought of it, and it may be that all these cases of epiphyseal separation do have some restriction in growth following them.

Fortunately, I was able to get the original plate taken at the time of the injury. I think you will see as you look at it now, in view of what we know of the present condition of the case that the injury is entirely in the inner half of the bone and does not cover the entire epiphysis.

The next question is as to what to do for the boy. What can we do to correct the position? He is 15 years old. He has 4 years before normal ossification of the apiphysis would take place. If we shorten up the fibula and break the tibia, this process will probably continue. If we destroy the remaining part of the epiphysis in the tibia and also the epiphysis of the fibula and straighten out the leg, we will give him a very much shorter leg than he has now. I am very much at a loss to know just what to do. Also, if you look in the last plate you will see the articular surface of the astragalus has been changed, due to the irregular growth of the articular surface of the tibia.

The case is of particular interest to me as to what, if anything, could have been done to have prevented the trouble originally and now having it what can be done to give the boy a better foot and leg than he has.

Dr. Raymond P. Sullivan:

"Any abnormal mobility? Any clinical evidences of this"?

Dr. H. Beeckman Delatour:

"Nothing but the position of the foot"?

Dr. Raymond P. Sullivan:

"Joints all right"?

Dr. H. Beeckman Delatour:

"Joints all right. He has good mobility and gets around all right. He has practically no limp. It is simply the position of the foot that brought them back. You see the line of the oscalcis, how it is changed."

Dr. Henry F. Graham:

"How old is he now"?

Dr. H. Beeckman Delatour:

"He is 15 years old now."

Dr. James M. Downey:

"Was there a Wassermann on him"?

Dr. H. Beeckman Delatour:

"No."

Dr. William H. Rankin:

"Isn't there an overgrowth of the external malleolus or fibula there"?

Dr. H. Beeckman Delatour:

"I don't know. It looks as if there were."

Dr. Raymond P. Sullivan:

"Have you got a picture of his other foot"?

Dr. H. Beeckman Delatour:

"No, I have not."

In answer to a question by the President as to what he himself thought he would do about the case, Dr. Delatour said:

"I have not made up my mind. It is a very bad thing to draw a picture of something you don't know anything about. I am looking for advice.

Dr. Walter A. Sherwood:

"Has the boy got a good function"?

Dr. H. Beeckman Delatour:

"Yes."

Dr. Walter A. Sherwood:

"Then why not let it alone"?

Dr. Raymond P. Sullivan:

"I wish to ask the doctor if a study has been made of any other bone besides that in his leg.'

Dr. H. Beeckman Delatour:

"No. I only got these pictures a few days ago. I haven't seen the boy since getting them."

Dr. Raymond P. Sullivan:

"The thought suggests itself to me that this is a faulty repair due to destruction of a center of ossification. If it is a faulty development it is quite probable that the calcium metabolism is out of order. I think that a study should be made of his other bones for density and metabolic changes. I believe the fibula is acting with a direct pressure and that it is not an overgrowth of bone. There seems to be no failure of good union. It is an interesting case to me, and I think if the deformity is due to something in his general constitutional make-up that a complete study of his metabolism might throw some light on it.

"I would like to hear from it again, Dr. Delatour."

Dr. H. Beeckman Delatour:

"He is well developed in every way. I don't see any change."

Dr. Charles H. Goodrich:

"Inasmuch as Dr. Delatour says the function of this foot is good, and inasmuch as any estimate of how much more growth there is going to be in these four years is more or less of a guess, and inasmuch as our work in such bony areas should be as accurate as possible, would it not be wise to wait and see what is the condition at the completion of ossification and then deal with it as a mature bone"?

Dr. Thomas B. Spense:

"It is quite evident, Mr. President, that if you do an osteotomy in this case you must do it on both the fibula and tibia. You cannot correct the fibula alone because of that very marked deformity in the tibia and the deformity of the os-calcis as well, so it makes a pretty big operation.

"I think the splint might be considered."

Dr. Lewis L. Pearson:

"I have no suggestions to make, but would like to say, about the deformity, that that picture shows decidedly a most serious injury to the inner side of the tibia more than to the external side. If enough injury is done to a bone, it will kill it. If you do enough injury to a bone and if the injury is not enough to kill it, you can do enough injury to it so as to retard its growth. It looks very much as if that is what we have here. I do not believe the fibula is overgrown and that it was hurt. That seems to have continued its normal growth. The tibia, which was injured much more to the inner side than to the outer side, has not died, but the growth of it has been very much impaired, more than on the external side, and even that seems to have been much impaired in its growth, and that injury seems to have caused an interference with the power of development.

"I do not think it is necessary to call into consideration the question of a double center of ossification. I think the injury there would account for the condition that we have without that."

In answer to a question by the President as to what he himself thought he would do about the case,

Dr. Delatour said:

"I have not made up my mind. It is a very bad thing to draw a picture of something you don't know anything about. I am looking for advice. If I do not get it here it is my intention to try to get it elsewhere."

Dr. Walter A. Sherwood:

"Has the boy good function"?

Dr. H. Beeckman Delatour:

"Yes."

Dr. Walter A. Sherwood:

"Then why not let it alone"?

Dr. Richard W. Westbrook:

"I think there is evidently an error in development here which is going on, and that, ordinarily such a thing might be guarded against, or rather the increase of it, by a proper brace, a brace which would tend to prevent lateral displacement. Possibly some form of correction might be done, if it seems wise to do it, and then to guard against any further increase of deformity as time goes on. Just exactly how it may be improved at the present time I think is a little hard to say from an X-ray plate alone. One hesitates to do an osteotomy on a case of that sort, but it seems to me it might be a good plan to do it, and then guard it with a brace against further development of deformity."

Dr. Edwin H. Fiske:

"This is a most interesting case to me because for many years in the treatment of fractures of children I have read and thought and heard of the failure of development in fractures of epiphyseal bones. It seems evident that that is what has happened here and, as I say, it is something that I have seen so little of that I almost doubted its existence, and I am certainly very much interested in the case for that reason. It seems evidently a case in which this injury to the epiphysis has destroyed the activity and the function of the epiphysis.

"I would like to ask if any others have seen such a situation following fractures of the epiphysis.'

Operation for Radical Cure of Axillary Furunculosis.

H. Beeckman Delatour, M. D.

Among the apparently minor ailments which we are called upon to treat is infection of the hair follicles of the axilla with the production of a succession of furuncles. These may appear to the surgeon as a small affair but in the mind of the patient after the second or third crop has appeared, it is a major and very important condition. The constant pain and initation prevents sleep and the septic intoxication gradually breaks down the general health and the nervous system. These patients soon get so that they can not bear any hurt or pain and look forward to the lancing of a new boil with terror.

The fear of pain in these cases seems to be a direct result of the absorption of the infection and not to any weakness on the part of the patient. This I fear we too often overlook.

Some of the so-called minor operations of surgery are not given the thought and care they should receive. If by a more thorough operation than incision and drainage we can cut short the ordinary duration of this condition we should devote ourselves to the perfection of such an operation.

The procedure I am about to describe I have followed in a number of cases with much satisfaction and a decided shortening of the infective process.

The procedure is as follows:

The axilla is thoroughly cleansed and all hair carefully shaved, the skin is then painted immediately before incision with iodine, the incision is begun at the mddle of the axilla on the chest wall and then carried downward and outward in a curved line to the outer margin of the hair line in the middle of the outer boundry of the axilla. The corved incision is used because after healing it is not liable to contract and bind the arm to the side.

After dividing the skin the fat is divided on the same line to a depth sufficient to get beneath the affected area and then the dissection is carried forward to the edge of the pectoralis major. When this point is reached the fat is divided up to the skin. This method of approach takes us through tissue which is not infected—but from here on we begin to open up infected areas. The entire mass of fat thus raised is now carefully dissected from the skin and as we do so we will make small openings through the skin at each point of infection. After removal of the tissue, as described, each point of infection in the skin is thoroughly cauterized with pure carbolic acid and this neutralized with alcohol. The flap of skin is next sutured in place with horse hair or silkworm gut, a small drain being introduced at the most dependent point. There is always some infection but the wound will frequently be healed in ten days—and there will be no recurrences of the painful boils.

We have all been tried by the persistence of these cases, just when we thought we had the case cured a new boil would appear and the whole process be repeated. This sequence has been seen so often that the public have been brought to believe that when you have had one boil you must have seven or more to clear the system of the poison.

The use of vaccines has apparently been of benefit in some cases. The advantages of the procedure described is that at one sitting the entire infected area is removed, the pain immediately ceases and a few dressings completes the cure.

Paper: A Radical Operation for Axillary Furunculosis.

H. Beeckman Delatour, M. D.

Dr. Henry F. Graham:

"This may seem to be a small matter to bring before a society of this kind, but I do not know of any of the minor ailments of humanity that are more troublesome than this to the man who is responsible for the cure of these cases. I have had a reasonable number of these cases to care for and I always hate to see them come along.

"I think Dr. Delaatour has not brought out in his paper the exact indications for this operation. There must be some cases of infection of the skin of the axilla, where so radial an operation as he describes is not necessary. I think we may say that in the average case where we have had one or two little infections and then there begins to develop a deeper mass beneath the skin (a sign of renewed infection of further hair follicles) this operation would be indicated.

"In speaking of infection of the hair follicles, by the way, in trying to find something on the subject I looked up a couple of books tonight and in one of them found that the statement is made that this infection is in the sweat glands. I do not altogether agree with that. I think it is in the hair follicles. It is mentioned simply for what it is worth.

"I think it would be unfair in discussing a subject of this kind this evening to limit ourselves entirely to even the operative treatment of these cases, so I will say, first, that in the cases which have gotten beyond the stage of the primary small infection, where a more radial operation is indicated, I heartily approve of the method Dr. Delatour has told us about tonight. I believe it is a distinct improvement over that which I have used in the past, namely, excision of a larger area of the skin and then cleaning out of the deeper tissues.

"In the treatment of these cases I think we must first consider the general condition of the patient as being responsible for the local manifestation. Many of them give a history of overwork, too long hours, lack of sleep, perhaps too much indulgence in rich food, or various foods which are not the best for the digestive organs. We must counteract these pernicious influences. We must see that the patient gets plenty of rest, plenty of fresh air, and, in addition, the proper kind of food; and I think that certain tonics are often indicated, such as iron, strychnin, etc.

"There are certain other measures which help in these cases where we are trying to avoid a radical operation. You notice that all these cases show a hypersecretion of the sweat glands, and it seems that the use of 25% aluminum chloride to abolish this hypersecretion for a time by drying it up, would help in the way of avoiding further infections when the thing has just commenced. I believe that 'Odorona,' a patent preparation, is frequently used for this purpose. I think it consists of a 25% solution of aluminum chloride or something similar.

"There was one case of this kind which I treated that went through the usual series of dressings and treatment, together with the opening up of small infections and cleaning out of the mass in one axilla. In three or four days' time the patient came back and said he had a little boil coming in his other axilla. I threw up my hands and thought I had the same process to go through again. About that time I invested in one of those thermolights, the heat bulb, with the nickel-plated cover, etc., and thought I would try it on him. He was a relative of mine and I was willing to try almost anything on him. I got him to come over every evening and gave him a 15 to 20 minute treatment with this thermo-light as hot as possible, practically sunburning his axilla. The infection in the other axilla gave no trouble and no radical operation was necessary.

"I believe if people persisted in this treatment and would pursue it regularly that in some instances it would be found to be of value. I think we should mention the use of these things. It is supposed to have an effect on cutaneous infections.

"I would like to say that we have a nurse at the hospital on whom I did this operation of Dr. Delatour's in a rather imperfect way as I see from the reading of his paper this evening and his description of the operation as he has given it here. I cannot say that we had a brilliant result in this case, chiefly perhaps because the operation was not done the way he has described it tonight. There was a little infection away up in one margin of the skin which had to be opened. She has had a little lymphangitis in the skin, but no further deep infections."

Dr. Richard W. Westbrook:

"I have used a somewhat similar incision, not brought out quite so widely, and I quite sympathize with Dr. Delatour in his desire to treat these cases of extreme furunculosis of the axilla in the manner in which he has; and after having some ill results with scars of various sorts, I have used a similar incision, lifting back a flap and cutting out all infected areas and then putting this flap back in such manner that it would not cause any troublesome contraction, expecting to have sufficient drainage, and getting very good results immediately, but not altogether a cure in ten days. In my experience it has been longer than that. I have had one or two minor areas to open up later on, where infection has collected under the flap in places where it had not been opened through for drainage."

Dr. Walter A. Sherwood:

"As I have never done this particular operation which Dr. Delatour has described I do not feel competent to discuss its merits.

"In regard to the subject of furunculosis in general, particularly furunculosis of staphyloccic origin (and most of them are of this variety) it has been quite a problem in my mind whether to treat these cases radically or not. I have watched a good many of them with a good deal of interest, and it seems to me that they do just as well if one treats them expectantly as when incised. In any event, it is necessary for the slough which invariably forms to become loosened and separated from the subjacent tissues before the condition is relieved and it seems to me that in a number of instances the superficial furuncles have taken care of themselves as well as when they have been incised.

"Furunculosis of staphylococcic origin in general is a type of infection in which I feel strongly that an autogenous vaccine is apt to be of very great assistance. It has always been a problem with me as to the origin of recurring staphylococcic furuncles, whether they are re-infections resulting from cutammated skin or whether some of them have their origin in the bloodcurrent from latent foci of infection which have been undiscovered, possibly in the teeth, toncils or in the digestive tract.

"It seems to me that since the habit of shaving the axilla among young women has come into vogue furuncles of the axilla have been much more prevalent than formerly. I have seen three or four cases in young girls who have been in the habit of shaving the axilla. I remember two of them who gave a history of having used 'Odorona' rather frequently, and both these patients had recurring furuncles in the axillae.

"If the operation described by Dr. Delatour is applicable to the axilla, I do not see why it is not applicable to the neck and to other parts of the body. In recurring furuncles of the neck reinfection is often prevented by sterilizing the skin of the neck daily, scrubbing it with tincture of green soap for ten or fifteen minutes rather vigorously, shaving off the hair and thoroughly washing the surface with alcohol."

Dr. H. Beeckman Delatour:

"Of course, such an operation would not be proposed for a single furuncle, but the majority of these cases come to us after they have been taking care of themselves for a while and there are several points of infection, and we make several incisions into necrotic areas which take some time to break down and discharge. In the meantime another boil starts up and so on. The cases I have used it on have been cases where there have been a number of points present, with a hard base, where you could feel beneath the skin an area maybe as large as a small marble, and when you dissect out the mass of fat, as I have spoken of, and opened it up, you will find six, seven or eight of those separate areas in the fatty tissue.

"The incision, as I mentioned, begins on the chest (indicating), not quite up to the pectoralis space, and it is then carried backward and along out so as to come to the middle of the space again at the extremity of the hair-line the flap is turned forward. You can make a perfectly straight incision and you have the same result as after the old method of amputation of the breast. When the scar contracts it will interfere with movement beyond, but the curved incision seems to avoid that. You are outside of the entire infected area, until you come up to the skin in front, and then you must peel everything right down to the skin. You must really shave the tissues away from the skin, and if you do so at each point you have a hole through the skin.

"The use of carbolic is, I think, a decided help. I always put a drain in, and I always use either silkworm gut or horse hair sutures, because I think there is much less infection along them than there is with silk.

"All cases will not heal in ten days. I did not mean to say that they would. I have had them heal in ten days.

"I never have had to make further incisions, which are so distressing to these patients.

"Vaccines, I believe, are very valuable and I think we should look after the general condition of the patient as well as to do anything else, but if you simply look after the general condition of the patient, you are not going to stop the process. It is going to take some time to improve the general condition of the patient, no matter what the source of the trouble may be, and in that time you are going to have recurrences of your boils , etc.

"The furuncles that occur on the back of the neck, are most frequently due to the aureus, and I look upon those as pretty dangerous propositions to incise. I very seldom make an incision in a furuncle of the neck, but treat along the lines of antiseptic dressings, keep the skin as dry as I can, and when the furuncle actually breaks down and suppurates, then open it and let out the pus, but as long as you have hardened tissue there you are in danger. If it is an aureus you are in extreme danger.

"I recall one case that I unfortunately had in a young man who previously had had an abscess of the prostate. He had two or three boils on the back of the neck, two of which I opened, and a third one appeared and I incised that—a little hard nodule not bigger than a pea. Two hours later he had a severe chill followed by a rise of temperature to 104, and in 24 hours he had recurrence of symptoms relative to his prostate, which had not bothered him for three or four years. He had an abscess of the prostate about three or four years before. Blood culture showed an aureus, and he died in three days. Now, whether the incision started up the general blood infection in that case or not I do not know, but it followed very promptly after the incision. I always felt as though it had some direct relation to it. Except for the pain he was having, he was feeling pretty well. He had no chills up to that time.

"In the axillary conditions we have a less severe infection to deal with. There we find the condition more as I have described it, and I think you will find that these cases heal up much more promptly by cleaning them out at one setting than by simply incising one point after another.'

Medical Book News

BOOK REVIEW SUPPLEMENT TO THE *LONG ISLAND MEDICAL JOURNAL*

Edited by JAMES M. WINFIELD, M.D.

All communications, books for review, etc., should be addressed to the Editor of
this Department, 1313 Bedford Ave., Brooklyn, New York

1920, No. 3 APRIL, 1920 2 PAGES

TEXT-BOOK OF HUMAN PHYSIOLOGY.

A TEXT-BOOK OF HUMAN PHYSIOLOGY, including a Section on Physiologic Apparatus. By Albert P. Brubaker, A. M., M. D., LL. D. Sixth Edition, revised and enlarged. Phila., P. Blakiston's Son & Co., 1919. 794 pages. 356 illustrations. 8vo. Cloth, $4.25

This book, which is essentially a compendium of those portions of animal physiology commonly dealt with in our medical school courses, is so well known through its previous editions that a detailed account of the scope and arrangement of its contents is scarcely called for in a review of this, its sixth, edition. Its literary stlyle is clear, concise and generally accurate, its letter-press satisfactory and its illustrations, some of which are orignal, are clearly reproduced. In both text and illustration there is evidence of revision and amendation without material change in the general make-up of the book. With this general make-up the relegation to the appendix of explanatory descriptions of apparatus is in accord; though in the actual study of animal physiology consideration of the construction and modus operandi of apparatus naturally goes hand in hand with that of the phenomena in connection with which it is employed.

Students of medicine will doubtless find this, as they have found previous editions quite useful in connection with their course work, and some practitioners may value it as a means for recalling forgotten facts and generalizations as well as for revising some of the concepts of their student days; though it is not, nor does it profess to be, an elaborate manual or broadly planned treatise. In its making prime attention has been given rather to accurate, concise statement of settled facts and principles than to open discussion of the many pros and cons that are wont to arise in connection with the study of physiologic phenomena and processes; and, therefore, the book as a whole presents the subject-matter in so crystallized a form that it fails to impart to the student an adequate conception of the limitations, degree of accuracy and, if the term be permitted, that element of fluidity so characteristic of present-day animal physiology. This last remark is offered, not in criticism but rather in characterization of the book, which seems to have been intentionally thus planned by its author. J. C.C.

ORTHOPEDIC AND RECONSTRUCTION SURGERY.

ORTHOPEDIC AND RECONSTRUCTION SURGery, Industrial and Civilian. By Fred H. Albee, A. B., M. D., Sc. D., F. A. C. S., Lieutenant Colonel, M. C., U. S. A. Phila. & London, W. B. Saunders Company, 1919. 1138 pages. 804 Illustrations. 8vo. Cloth, $11.00

This work is a most valuable addition to our list of Orthopedic Surgerys. A volume of eleven hundred pages, profusely illustrated in detail. The bibliography is very complete. Disease of the bones and joints is carefully given as to the pathology, clinical findings and treatment. The last chapters are devoted to war injuries and reconstruction. The theme of bone graft runs through the whole volume. The technic of this procedure is given in detail and carefully illustrated. The volume would be justified for this reason alone. On the whole a most admirable book. J. C. R.

SYPHILIS.

SYPHILIS. A Treatise on Etiology, Pathology, Diagnosis, Prognosis, Prophylaxis, and Treatment. By Henry H. Hazen, A. B., M. D. St. Louis, C. V. Mosby Company, 1919. 647 pages. 160 Illustrations. 8vo. Cloth, $6.00

As the sub-title indicates this volume includes all of the phases of syphilis and its treatment.

The need of such a work has long been felt by the Medical Profession.

Dr. Hazen is to be congratulated upon his achievement, for he has produced a wonderfully complete treatise upon this underestimated and little understood disease. He has also shown wisdom in selecting collaborators who are authorities upon certain phases of the subjest. The whole subject of syphilis is brought up to date and is thoroughly discussed in a volume of 647 pages (including index). A careful reading of the book did not disclose any extraneous discussion nor is there any suspicion of padding. The marginal references will be of great aid to any one wishing further knowledge of the subject.

The illustrations are original and serve to exemplify the text. The press work, binding and general get up of the book is excellent.

It is hoped that the publishers will succeed in placing a copy of this work in the hands of every physician in the United States, for it contains all there is known on this subject.

J. M. W.

PHYSICAL DIAGNOSIS.

PRINCIPLES AND PRACTICE OF PHYSICAL DIAGNOSIS. By John C. DaCosta, Jr., M. D. Fourth Edition, thoroughly revised. Phila. & Lond., W. B. Saunders Company, 1919. 602 pages. Illustrated. 8vo. Cloth, $4.50

There is no necessity for the reviewer to comment on the value of DaCosta's work on physical diagnosis. The book is accurate, clear, concise, comprehensive, carefully written in a style which is easily read and with illustrations which impress upon the reader the important facts of the condition discussed.

This fourth edition has been carefully rewritten and includes the diagnostic points of importance which have been developed during the World War. Newer and better methods of examination of the functional capacity of the heart, together with the transmission of the cardiac impulses are described in this fourth edition. The more recent methods of warfare have developed more accurate means of determing the ability to stand various altitudes and positions, the gas warfare had developed new lung and heart conditions, and the trench warfare has had its effect on the heart and kidneys. These new conditions have been presented in this edition.

DaCosta's work is one which should be familiar to all who care for careful, accurate methods of diagnosis. Henry M. Moses.

TEACHING THE SICK.

TEACHING THE SICK. A Manual of Occupational Therapy and Re-Education. By George Edward Barton, A. I. A. Phila. & London, W. B. Saunders Company, 1919. 163 pages. Illustrated. 12mo. Cloth, $1.50

Surely there is not, nor cannot be, a more important or attractive task than the training of those who are born crippled or who become so through accidents of peace or war.

Although the world war is over as far as actual fighting is concerned, still there is a vast multitude of men in all countries involved therein, for whom the fight to gain an honorable and adequate livelihood has just begun.

In addition to war injuries those of peacetime occupations mount up to the staggering total of seven hundred and fifty thousand per year, and as these will probably continue to occur at this rate, the subject of re-education is of most sweeping interest and importance.

The book quite appropriately begins and ends with the slogan of a European authority that "there are no cripples except of the will," inasmuch as there are very few cases so badly crippled as not to permit of being trained to a useful and gainful, as well as honorable and independent livelihood.

Any articles or treatises which will help us in the fulfilment of this task are particularly appropriate at this time. W. H. Donnelly.

BOOKS RECEIVED.

Books received for review are acknowledged promptly in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases review notices will be promptly published shortly after acknowledgment of receipt has been made in this column.

FATIGUE STUDY; the Elimination of Humanity's Greatest Unnecessary Waste, A First Step in Motion Study. By Frank B. Gilbreth and Lillian M. Gilbreth, Ph. D. Second Edition, Revised. New York, The Macmillan Company, 1919. 175 pages. Illustrated. 12mo. Cloth, $1.50.

SPEECH TRAINING FOR CHILDREN; THE HYGIENE OF SPEECH. By Margaret Gray Blaton and Smiley Blanton, B. S., M. D. New York, The Century Company, 1919. 261 pages. 12mo. Cloth,

THE NUTRITION OF THE FETUS. By J. Morris Slemons. New Haven, Yale University Pres,, 1919. 49 pages. 12mo. Cloth, 75 cents.

MANUAL OF OBSTETRICS. By Edward P. Davis, A. M., M. D., F. A. C. S. Second Edition, Revised. Phila. & Lond., W. B. Saunders Company, 1919. 478 pages. Illustrated. 12mo. Cloth, $3.00.

TEACHING THE SICK. A Manual of Occupational Therapy and Re-Education. By George Edward Barton, A. I. A. Phila. & London, W. B. Saunders Co., 1919. 163 pages. Illustrated. 12mo. Cloth, $1.50.

THERAPEUTICS OF THE RESPIRATORY ORGANS. By Francois Cartier, M. D. Translated from the French and Edited by Carl A. Williams, M. D. Philadelphia, Boericke & Tafel, 1919. 302 pages. 12mo. $2.25, plus 10 cents postage.

PHYSICAL RECONSTRUCTION AND ORTHOPEDICS. By Harry Eaton Stewart, M. D. New York, Paul B. Hoeber, 1920. 240 pages, 67 Original Illustrations. 8vo. Cloth, $3.75.

EDUCATION IN WAR AND PEACE. By Stewart Paton, M. D. New York, Paul B. Hoeber, 1920. 106 pages. 12mo. Cloth, $1.50.

DISEASES OF THE NERVOUS SYSTEM. A Text-Book of Neurology and Psychiatry. By Smith Ely Jelliffe, M. D., Ph. D. and William A. White, M. D. Third Edition. Philadelphia & New York, Lea and Febiger, 1919. 1018 pages. Illustrated. 8vo. Cloth, $8.00.

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EMPYEMA.*

Thomas Bray Spence, M. D., F. A. C. S.

Brooklyn, New York.

THE Great War, which this world has so recently experienced, compelling the mobilization of enormous armies both at home and abroad, made the study of certain diseases and injuries unusually easy. It is no exaggeration to assert that the medical profession of the nations involved has taken advantage of these opportunities in a creditable manner. Everyone who engaged in the care of the sick and wounded, a most important part of the duties of a modern army, remembers the painstaking supervision, criticism and inspection to which his work was subjected. At times he may have felt that the tangles of red tape were a bit troublesome to unravel, but he must acknowledge that the desired result was attained, for individuals were inspired to their best endeavors and never was displayed a more commendable spirit of scientific cooperation.

Because of the large number of cases cared for under somewhat novel conditions it was natural that some new methods should be tried, that some discarded procedures should be revived and that some of the accepted means of diagnosis and treatment should be put to the test anew in the handling of our disabled soldiers.

On this side of the Ocean no subject received more attention than empyema of the thorax, and the fact that a commission was appointed for the study of this disease alone is an indication of the importance it assumed in the mind of the Surgeon General of the Army. A great number of surgeons had an opportunity to observe this disorder and many articles giving their views on the subject have been read before our professional societies or have appeared in our scientific journals. At the same time the civilian surgeon found his work in this line greatly increased and his interest in the subject was correspondingly stimulated. There is now an opportunity for us to take stock and make note of any progress that may have been made.

In the matter of diagnosis the greatest gain was doubtless the training of hundreds of young physicians in examination of the chest. Most of the Military Hospitals were blessed with excellent

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* Read before the Medical Society of the County of Kings, January 20, 1920.

Medical Chiefs who were keenly interested in the men working with them and well fitted to teach and demonstrate the various methods of diagnosis. Certain it is that this educational opportunity detracted to some extent from the losses incurred by those who went into Military Service.

The X-ray was resorted to so universally in the diagnosis of fluid in the chest, and with such good results, that everyone was persuaded of its usefulness. It is especially valuable in discovering and locating pocketed empyema with two or more collections of pus, a condition not uncommon when the streptococcus is the etiological factor. Some of the workers became extraordinarily skillful in the use of the fluoroscope and this instrument is sure to find a more important place in our armamentarium. The X-ray has to some extent at least displaced the more dangerous aspirating needle as a means of diagnosis, but it has still some ground to gain in this direction for there are some diagnosticians who do not hesitate to puncture the chest and lungs in a most meddlesome way, in spite of the many warnings against such indiscriminate needling.

When we come to a consideration of the improvements in the treatment of the disease we find that many more claims are brought to our notice.

Aspiration of the pus has resulted in a small number of cures but hardly enough to recommend it as a routine method of treatment. Its usefulness consists rather in tiding the patient over the acute stage of the disease until the fluid has become creamy pus and until the almost ever present pneumonia has disappeared from one or both lungs.

Drainage by means of a small tube inserted between the ribs has been revived and tried out rather extensively. It still has its enthusiastic advocates, but most surgeons condemn the procedure because of its frequent failure to secure drainage adequate for a complete cure. The ease with which the operation can be done on a very sick patient, the absence of shock and the avoidance of sudden collapse of the lung are points in its favor. Various methods of instituting negative pressure in the chest have been devised to assist in drainage and lung expansion, and irrigation of the abscess cavity through the small tube has sometimes been done, but many of the cases have finally come to rib resection before a cure has been accomplished. It is doubtful if the elaboration of this closed method by the various more or less complicated procedures has been sufficiently successful to give it a permanent place in the treatment of empyema, notwithstanding its evident advantages.

The open operation with rib resection and the insertion into the cavity of one or more large tubes is the method that seems to give the greatest satisfaction to the majority of surgeons. The point of drainage depends upon the location of the pus, but in the average case should be well to the back and at the lower part of the pleural cavity. It must be borne in mind, however, that it is possible to make the opening so low that the diaphragm will interfere with proper drainage. It is to be noted in this connection that the diaphragm rises higher than normal on the side of the empyema after operation and remains higher after recovery, as has been shown by X-ray examination of many healed cases. Whether or not this upward displacement of the arch of the diaphragm is permanent cannot be foretold, but it seems probable. In cases of streptococcus empyema the abscesses have been found in such varying and unusual locations that no rule can be made as to the site of the opening and this must be determined for each individual.

It is in these cases that the X-ray has been found to be of especial value for its use has frequently avoided the necessity of resorting to the employment of the diagnostic needle so fraught with danger of spreading infection in a patient already seriously ill.

The use of antiseptic solutions has been considered more particularly in connection with the open operation. The vogue of the Carrel-Dakin treatment of empyema during the last two years is known to us all, but as a routine method to be followed in all or most of the cases it seems only fair to assert that many surgeons are not yet persuaded of its superlative value. Certain it is that the instillation tubes cannot be placed with the precision that is demanded in the treatment of infected wounds in other parts of the body, nor can we obtain that accuracy of bacteriological control which is claimed to be so essential a part of this somewhat delicate procedure. We are taught by Carrel and his followers that all parts of the wound must be most carefully inspected by means of smears and microscope. What value, then, can be attributed to the examination of smears taken only from the outlet of a large empyema cavity?

But theorizing and speculation do not prove or disprove the truth of a proposition and we must resort to practical experimentation in order to test the worth of a new procedure. During the early months of the existence of the War Demonstration Hospital at the Rockefeller Institute its staff were enthusiastic advocates of the Carrel-Dakin treatment in empyema cases. In one short week the mortality rate of empyema in that hospital rose from 15% to 30% and the enthusiasm in that field was somewhat dampened. At that time early closure of the drainage wound was the rule, a plan that was afterward abandoned by many surgeons who used Dakin's solution, because of the not uncommon recurrence of collections of pus and the consequent necessity of reopening the chest. In certain cases of empyema with small, slowly healing, accessible cavities the Carrel-Dakin method is undoubtedly the best treatment yet devised and it is just as reliable here as in infected wounds located in other parts of the body, but it must be remembered that accessibility and good drainage are quite as necessary in the one place as the other and that fact has been repeatedly demonstrated.

Dichloramine-T is another of the new antiseptics recommended in the treatment of suppurative processes, empyema included. It was my good fortune to have an opportunity to compare it with Dakin solution in the Base Hospital at Camp Lee during the spring of 1918. Two members of the Empyema Commission then had charge of adjacent wards in my service which were devoted to the care of empyema patients. One employed Dakin solution exclusively and the other dichloramine-T for a period of many weeks with results that could hardly be differentiated. Dichloramine-T has the very obvious advantage of easier application.

One of the attempted revivals in the treatment of empyema is irrigation of the cavity with large amounts of solutions, having as its object the thorough cleansing of the walls of the cavity, a procedure to be clearly distinguished from the instillation of small quantities of fluid. Bold indeed were those surgeons who by practice and precept sought to reinstate this dangerous method long since discarded and condemned by all careful practitioners and teachers throughout the surgical world. After two patients at Camp Lee met sudden death as a result of this treatment persistence in the use of the method is inexcusable. The risk of the procedure was already known. It has been proven again.

Lilienthal has devised a method which carries the open operation to its extreme limit. He makes a long intercostal incision which is widely opened by means of a mechanical rib-spreader, thus making it possible to inspect the whole cavity and discover any pockets that may exist between the lobes of the lung or elsewhere. It demands the employment of a general anaesthetic and otherwise adds to the risk of shock. It has not been generally accepted as a safe procedure to pursue.

It is quite obvious to the impartial observer that the open method and the closed method of treating empyema has each its advantageous points. With this in mind I devised an operation two years ago which sought to combine the good features of both procedures. It is done in the following manner. A rib is resected in the usual way with the aid of a local anaesthetic. Before the pleura is opened sutures are inserted ready for tying. The pleura is then perforated so that a large tube, clamped at its outer end, can be thrust into the cavity, after which the sutures are quickly tied on either side of the tube, thus making an air-tight connection. A final stitch is passed through the tube attaching it to the skin. The patient is returned to bed without evacuating the pus and then the tube is connected to a subaqueous drain and the clamp is removed from the tube. Drainage of the chest takes place slowly, without the admission of air and after the patient has been comfortably placed in bed. There is no leakage alongside this tube, though its prevention has been found difficult when an air pump is employed to produce negative pressure in the chest.

This operation has practically all of the advantages of the other closed methods. It is easy of performance, the complication of lung collapse is not induced and the resulting shock, heart failure, distressing cough, gasping for air and fear on the part of the patient, and the surgeon as well, are all avoided. At the same time the large tube permits adequate drainage and we may therefore confidently expect a complete cure.

In the after care good nursing, good food and the early and persistent use of blowing bottles are salient features. With children some toy requiring blowing may be substituted for the blowing bottles. Setting-up exercises should be instituted early in order that spinal and chest deformities may be prevented so far as possible.

Some of the operations by this method were performed in civil practice and some in the Base Hospital at Camp Fremont. All of the patients have done exceptionally well, complete healing being secured early and permanently. Their number, however, has not been large enough to justify the making of statistics. I hopefully recommend the operation for further trial, having in view the comfort of the patient, the shortening of the period of convalescence and the probable decrease of the mortality rate.

THE EARLY DIAGNOSIS OF SOME ORTHOPEDIC CONDITIONS.*

G. H. V. Hunter, M. D.

Brooklyn, New York.

I OFFER no apology for the title of this paper, nor do I mean to cast aspersions on the professional ability of any gentlemen present, when I attempt to bring out some points in the early diagnosis of some orthopedic conditions. What I hope to do however, is to make you alert to recognize these conditions at the earliest possible moment.

The orthopedist, above all men must be patient. His specialty is not like the general surgeon's who, when he puts his last stitch in the abdominal wall after an appendectomy, can almost always truthfully say, "the patient is now convalescing." Our cases, on the contrary, are long drawn out, weeks run into months, and months into years, sometimes, before an infantile paralysis or a tubercular spine can be said to be well on the way to recovery, and even that recovery is not a complete restoration to normal. How very necessary it is therefore, to make an early diagnosis in these cases, so that no time may be lost and that the treatment—generally long enough at best—can be shortened as much as possible.

For example, take an early tubercular hip. How often is the pain and early limp put down as the result of a fall, or even growing pains—whatever they are? How many of us have made a tentative diagnosis of rheumatism, given a prescription for some form of the salicylates and told the mother to bring the child in again in a few weeks? How well marked were the symptoms when the child was brought in again, at the end of perhaps six weeks, with a typical muscle spasm, and perhaps a flexion deformity. I confess this has happened to me, and venture to say has happened to some of you.

In all cases of trouble in the hip, at the first examination insist that the child be stripped absolutely. I lay emphasis on this because so many mothers demure at it and I feel sure the family physician has not examined the child that way. While the patient is being prepared for examination a few questions concerning the family history may bring out some interesting facts. There may be a tubercular history in the family which will at once put you on your guard. The history of the case may bring out the fact that there has been pain in the hip for some weeks. The pain is constant, but generally worse at night—night cries being common. The pain may be referred to the knee which may mislead you.

As the child stands in front of you on the table note any wasting of the glutei muscles, or of the muscles of the upper thigh. Note any difference in the gluteal or inguinal folds. See also that the anterior superior spines are on the same level and that both feet are put down firmly on the table each bearing their proportion of the body weight. Next, have the child lie on his back, and standing on the side of the table nearest to the affected side grasp the thigh at its middle third with one hand and place the other on the pelvis and put the limb through all its normal motions, viz: abduction, adduction, flexion extension and circumduction. If any of these movements are opposed, viz: if there seems to be something holding against you, you have a muscle spasm, unless the case be of long standing where it might be an ankylosis. As an early symptom of a tubercular arthritis this is an invaluable sign as it is invariably present.

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* Read at a meeting of the Bay Ridge Medical Society, Dec. 9, 1919.

Now, given such a case with any, or all of the above symptoms, bring to your aid at once, the benefit of the x-ray. If your suspicions are confirmed, so much the better, but do not let a negative x-ray influence you to think that the condition is trivial if the symptoms are present. I have repeatedly had negative x-ray reports, but was so firmly convinced that I was dealing with a tubercular condition, that I put the limb in plaster, and, at the end of a month or two had my diagnosis confirmed by a second picture.

What I have said concerning tubercular hips, applies equally well to knees. You have, however, often a history of a predisposing cause, such as an attack of measles, scarlet fever, whooping cough or pneumonia, which has lowered resistance; and you see a thin, pale child, and this is apt to put you on your guard. Remembering that in children the type is generally osteal, and rarely synovial, and that the origin is more likely to be in the lower end of the femor than in the upper tibia, and rarely in the patella, we proceed with the same careful examination. Look first for wasting of the lower third of the thigh. There may be a history of a fall followed shortly after by a limp. There is pain in the knee, and limitation of motion, especially extension, in fact there is a gradual increasing tendency to tighten the ham strings. There is pain, sometimes occurring only at night. Try to elicit pain on pressure, over articular ends of the bones. Later in the disease, you must look for a genu valgum or a partial subluxation, but the diagnosis should have been made long before this.

When we come to consider orthopedic conditions of the spine, we find that tuberculosis forms by far the greater part of these, nor is the diagnosis always easy. A child is brought to you, generally pale and poorly nourished, with a history of a fall some weeks before, and lately has not been interested in his play. Child wants to sit, rather than stand, and does not like to stoop. Taylor describes the attitude in this condition very well when he calls attention to the "tipped back head, retracted shoulders, stiff back and careful movements." If you place a small object on the floor beside the patient, and ask him to pick it up, he will not bend over for it but will start bending the knees as if to sit down on the floor and then when within reach of the object, reach out and pick it up. There is limitation of movement of the spine in all directions, and this is noticed to extend sometimes three or four vertebrae above and below the diseased one. The pain may be a bit confusing often occurring in the abdomen, but sometimes in the hip, thigh or leg, if the focus lie in the lower dorsal or lumbar vertebrae; or, if it be in the upper dorsal or cervical region, the pain may extend upwards into the back of the head or down the arms.

If there be a sharp projection backwards of the spine, or kyphos, coupled with the above symptoms, the diagnosis is simple, but it is much easier to treat a tubercular spine before than after this occurs, hence we want to arrive at our diagnosis at the earliest possible moment.

Curvature of the spine is almost always brought to the family physician by the mother, who says she has noticed something wrong with the child's back, and it is for this reason a great responsibility rests on the family physician. If there be drooping of one shoulder, with a slight degree of lateral curve of the spine, it is the duty of the doctor to at once inform the mother of the danger in allowing such a

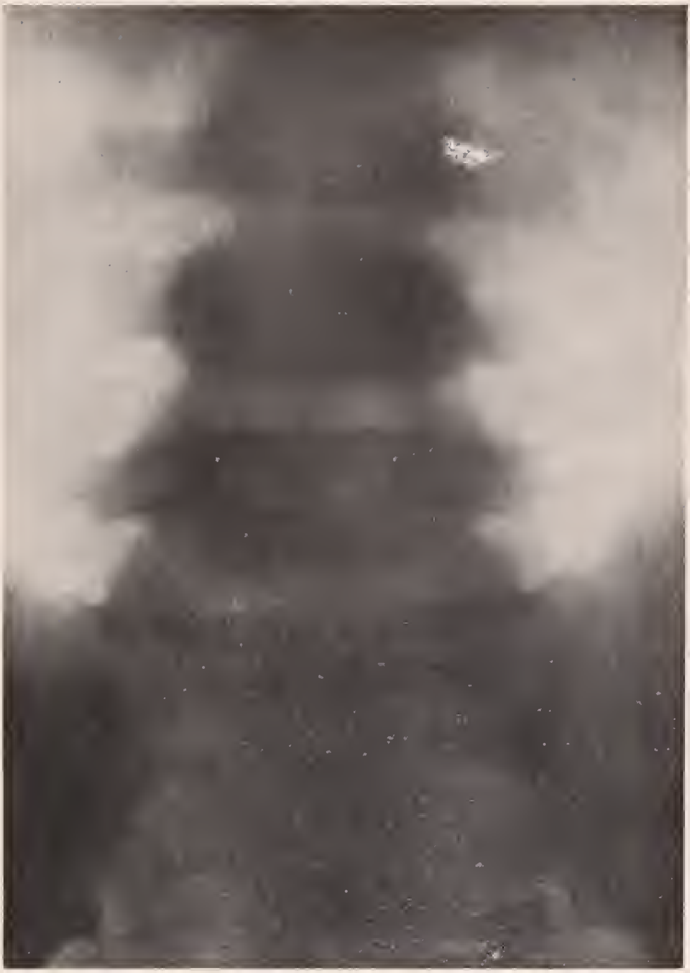

FIG. 1.

Patient E. P. Brooklyn Hosp. Disp. Orthopedic Dept. 7 years old—well marked limitation of flexion of spine in lumbar region. X-Ray shows little if anything to confirm diagnosis of Tuberculosis which was made at the time viz. June 16th, 1919.

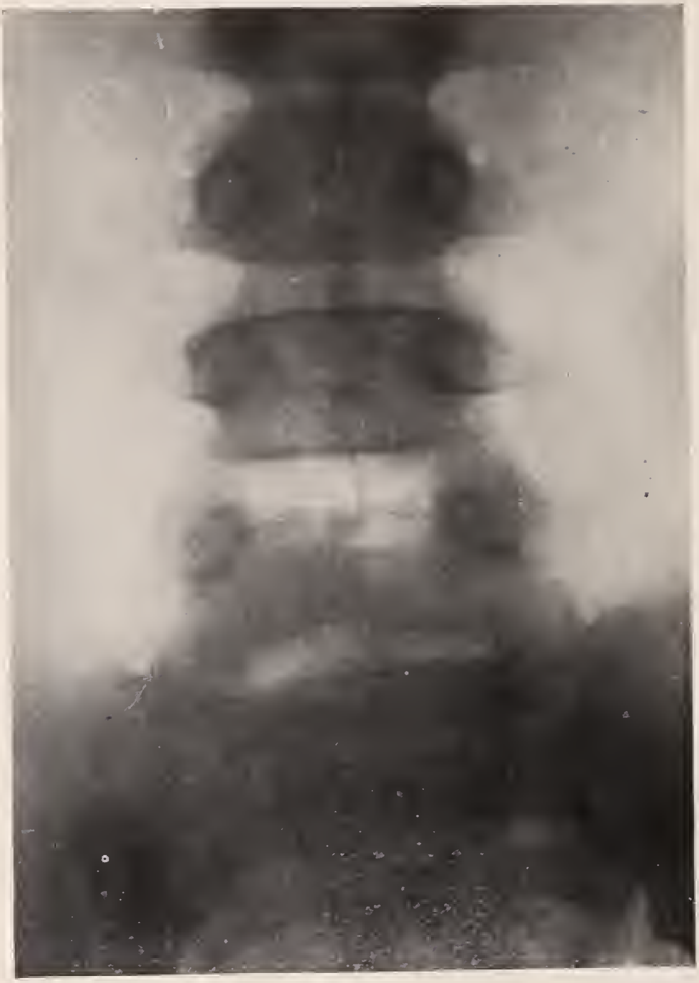

FIG. 2.

Same patient Nov. 5, 1919. X-Ray picture confirms diagnosis of Tuberculosis of 5th Lumbar vertebra.

thing to go untreated. If, on the other hand, the mother is assured that the child will grow out of it, she will go away with a feeling of security which is false, and the next time you see the child there will be a well marked soliosis, with perhaps a commencing rotation as well.

The treatment which would have been largely gymnastic if taken early, will have to include several months of corrective jackets, and later very likely a spinal support, to say nothing of a long period of corrective gymnastics. If you are in doubt about the straightness of a spine, take a strip of adhesive, two inches wide and apply it to the spine from the 7th cervical vertebrae to the promontory of the sacrum. Feel for the spinous processes under the tape and mark them with a pencil on the adhesive right down to the sacrum. Then stick your adhesive on the wall and apply a straight edge marking from the 7th cervical spinous process downward. If you have any deviation from normal, your spinous processes will lie to one or the other of your straight line.

I cannot leave a discussion of the spine without calling your attention to a very common condition of the sacro iliac synchondrosis, which is often overlooked or given a snapshot diagnosis of a strained back. I refer to a sacro iliac strain. This is more common in women especially working women, and the patient complains of dull aching pains over the sacrum. These are worse at night and may extend down into the hip. The patient often gives a history of a "kink in the back" after heavy lifting, and there is little if any pain on pressure. On bending forwards, the pain is worse, and if you have the patient turn the head and upper trunk alternately to the right and left, the pain will be felt most acutely on the side opposite to the one, towards which the head is turned, as in this position the sacro iliac joint on that side is put most on the stretch.

You will find but little if any deviation from normal by an x-ray of these cases, but rarely you will see what seems to be a distinct separation at the sacro iliac joint.

Dr. Goldthwaite of Boston has described a sign in these cases which is as follows: The patient lies on the back with right knee and hip flexed, an effort is then made to extend the leg keeping the hip flexed. On account of the origin of the hamstrings on the tuberosity of the ischium a direct pull on these muscles pulls directly on the ileum and strains the sacro iliac joint causing pain. By repeating this on the opposite side and noting the resulting pain, if any, it is possible to determine which side is affected.

More recently Dr. Truslow has demonstrated another sign viz: By auscultation with a Bowles' stethoscope over the joint, and having the patient stand and bring the knees alternately as high as possible to the chest. A distinct click is heard as the two surfaces slip past each other.

If you are in any doubt of your diagnosis of sacro iliac strain, note the relief experienced by the patient, if you place a piece of thick felt over the sacrum and strap with adhesive—the latter being put on under considerable strain and anchored to the crests of the ileum in front.

A condition sometimes misleading, and often unrecognized, is a slipping or injured internal cartilage of the knee. This is not ordinarily seen in the middle aged or anyone in sedentary life, but in the young and active man or woman. It is common among athletes, gym instructors, football players and soldiers just fresh in the army undergoing intensive training. Remembering these things, and also the less firm attachments of the internal than the external cartilage, be on the alert when you are called to see a young man with a history of his knee giving way under him, or having "locked." He is in great pain and points to the inner side of the patella. On careful palpation you may feel the cartilage or part of it, which has become detached and lies external to the joint, or else pinched between the articulating ends of femur and tibia. Patient may be able to reduce the slipped cartilage himself or you may have to do it for him. This is best done by Jones' method with the patient on the back, flex the thigh on the trunk flex the leg on the thigh. Rotate outwards and abduct the leg to open the inner side of knee joint and clear the cartilage, then rapidly rotate inwards and extend the leg. Occasionally, you may require to give an anesthetic so that the muscles will relax enough to enable you to get the offending cartilage in place again.

In the British army all suspected cartilage cases were sent to the gym instructor who put them thru a rigid course of exercises, and immediately reported cases of "locking." These cases were the only ones operated, and invariably a loose or broken cartilage was found. The convalesence was short and the patient allowed to walk with a back splint in three weeks and do duty in six.

When we come to orthopedic conditions of the feet, a large field is before us. Many cases of fallen arches are recognized at once. They have the diagnosis written all over them. The more difficult cases are those in which the metatarsal or transverse arches are at fault and the patient has intense pain in the fore foot after walking. If you will examine these cases carefully you will find that the transverse arch is down and by pressing under the second and third metatarsal bones the arch will be re-established and the patient may say "my, that feels good." To clinch your diagnosis as it were, put a small pad of felt under the fore foot and strap, allowing the patient to walk on it for one week. The pain will almost invariably have disappeared. In these cases of fallen metatarsal arches the pain is caused by the nerve filaments being pressed between the sole of the shoe and the bases of the metatarsal bones and you will often see a large callus in this region as a result of such pressure.

Very frequently you will be called upon to diagnose a condition of which the symptoms are—pain in the back of the heel and extending up the tendo achilles. You examine the arches and find them normal. The heel cord however, seems tight and it is almost impossible to dorsi flex the foot beyond a right angle. An examination of the shoe reveals the cause, the heels are so high that the foot has to be in a state of almost equinus to wear the shoes, and that style of shoe has been worn so long that the tendon achilles is contracted, if not actually shortened.

The condition of hallux valgus, or deviation outwards of the great toe, often coupled with a painful spot at the joint is very often accompanied by a deviation inwards or perhaps an actual overlapping of the little toe—and this is invariably caused by our present day fashionable shoe. I may say this is more common among ladies though not rare among men.

I think our shoe manufacturers are responsible for more than 90 per cent of the cases of foot trouble we see today. If they would stop making the short vamped, narrow toed, high heeled shoes which are considered "the thing" by the ladies, and make in place of them a shoe with a straight inner line with room enough for the toes to lie side by side, have a heel one inch high, and the next generation would have far better feet than the present one. Read at meeting of Bay Ridge Medical Society, Tuesday, Dec. 9, 1919.

TUBERCULOSIS AND SOME PHASES OF THE ANTI-TUBERCULOSIS WORK IN SUFFOLK COUNTY.

Edwin P. Kolb, M. D.

Holtsville, N. Y.

IN 1914 the question of whether Suffolk County should appropriate $50,000 for the construction of a County Tuberculosis Sanatorium was submitted to the voters and carried by a small majority. The opponents to the proposition included (1) those who honestly believed there was no need for a Tuberculosis Sanatorium in the county, many of whom have frankly admitted that subsequent events have proven they were mistaken and now advocate enlarging the institution. (2)Many who imagined such an institution would be a real danger to the surrounding community, considering the known cases segregated in the Sanatorium and taught to take all precautions to prevent the spread of the disease a menace to the community, giving no thought to the danger from the open cases, known or unknown, in their own village (or own family) expectorating bacilli loaded sputum on the streets and highways and in many cases, handling their food. (3) The chronic obstructionists who oppose any expenditure of money no matter how progressive, or how valuable to the public, if it means an increase of a few mills in the tax rate and who must always be crushed by the steam roller of progressive public opinion.

The Sanatorium was opened for the admission of patients in July, 1916, an administration and staff building completed in the fall of 1917 and a County Tuberculosis Nurse employed in February, 1918.

Up to the present date (February 1st, 1920) there have been 262 admissions and 221 discharges. Eighty-five (32%) of those admitted were residents of one of the towns that voted against the proposition.

Condition of Patients Upon Admission

Far Advanced	Mod. Advanced	Incipient	* Non Tubercular
168 (64.1%)	60 (22.9%)	22 (8.4%)	12 (4.6%)

Far Advanced Cases. The large number of far advanced cases indicates considerable delay on the part of the physician in arriving at a correct diagnosis. The fault is not always the physician's, for often patients with Tuberculosis do not seek medical advice until the disease is well advanced. However, the history often shows that the patient has been under the doctor's care for months, sometimes years, with evident symptoms and unquestionably, obvious physical signs of Tuberculosis, before a correct diagnosis is made.

* Lung Abscess, 3; Bronchiectasis, 3; Bronchial Asthma, 2; Sarcoma of Lung, Carcinoma of Lung, Typhoid with Bronchitis, and Alcoholic Gastritis, each one. In the cases of Sarcoma and Carcinoma of the lung, the tentative diagnosis of Malignant Tumor was confirmed by autopsy.

Sometimes the diagnosis is made only after a change of physicians. Too often the physician has neither made a chest examination nor taken a sputum specimen. Certainly a careful physical examination is indicated in every patient with symptoms of respiratory disease and a sputum examination whenever there is cough with expectoration. This may seem a rather sweeping statement but even in the case of the child with whooping cough complications may be discovered or forestalled. Attacks simulating and often diagnosed as Bronchial Asthma may occur with or be due to Tuberculosis. The physician who neglects these two procedures is not dealing fairly with his patients. One or more negative sputum reports do not rule out tuberculosis. Statistics covering a large number of incipient cases at Ray Brook[1] show that 75% had negative sputum. The sputum was negative in over 40% of the moderately advanced cases admitted to the Suffolk Sanatorium. Occasionally far advanced cases will show negative sputum even on successive examinations.

Sometimes patients diagnosed as incipient by their physician are found to be far advanced cases. It would seem that the diagnosis of the stage must be based either upon the history of the duration of the acute illness as voluntarily given by the patient or upon the patient's general physical condition. Either basis may be very misleading. The acute illness may be only an exacerbation of long standing extensive disease. Careful questioning regarding symptoms, and the nature and extent of the physical signs may give a more nearly accurate idea of the duration of the disease. A patient with advanced chronic or subacute disease may be well nourished and not obviously ill.

Moderately Advanced Cases. The number of moderately advanced cases admitted to the Sanatorium is comparatively small and should be much larger. It is reasonable to believe that the number of individuals in the county with the disease at this stage, equals, if not greatly exceeds the number with far advanced disease.

Incipient Cases. The number of incipient cases is disappointing, for it is in this stage that the prognosis is best. However, as Incipient tuberculosis is often practically a symptomless disease and the patient with incipient disease rarely consults the physician because of illness due to his Tuberculosis, it is not strange that a diagnosis is not made more frequently in this stage. How then, is the physician to discover the incipient case? By careful examination of every patient with any symptoms of tuberculosis, no matter how slight, and sputum examinations where there is expectoration. Examination of all the members of the family in which there has been a death from tuberculosis, or a known open case, even though contact dates back several years. Often children and young adults who are apparently well are found to have contracted the disease. As Garvin[2] has said, "frequently an incipient case of Tuberculosis, who may be ignorant of the fundamental symptoms of a chronic case, may not realize that his symptomless and apparent state of health is at all a forerunner of the terrible condition in which he had seen his father, or mother, or sister." The patient obviously ill with tuberculosis, or who has positive sputum is very likely not incipient.

Non-tuberculous Cases. The number sent to the Sanatorium is not excessive. In most cases the symptoms, and in some, the signs simulated those of chronic tuberculosis. The differential diagnosis of certain chronic non-tuberculous lung infections if often very difficult and may require months of observation and study. They are sometimes benefited by Sanatorium treatment and the mental relief afforded by a correct diagnosis to a patient who may for years have been considered by himself and friends as a dangerous consumptive, makes the Sanatorium sojourn worth while.

A patient with the disease well advanced is sometimes told, "if you go to the Sanatorium for a few weeks you will be well." The result is that when his stay is prolonged month after month, the patient and his family become much discouraged, may criticize the Sanatorium, or lose confidence in the physician who made the statement. As a matter of fact the average incipient case requires at least 6 months of Sanatorium care.

The writer certainly is not a pessimist but he cannot endorse a statement made publicly last summer that "if Sanatorium treatment is instituted early enough, a little tuberculosis does not amount to anything." He believes the pendulum of prognosis has swung a little too far from the hopelessness of 30 years ago, to the extreme optimism of some of the men of the present day. Abnormal optimism is probably due to the many articles published in recent years on the "curability" of tuberculosis, although the authors have usually emphasized the necessity of treating the disease in the earliest stage. Another reason is the failure to make a distinction between tubercular infection, which is practically universal in individuals over 15 years of age and results in fatal tuberculosis in about 10%, and clinical tuberculosis to which a majority of those affected, considering all stages, eventually succumb. A study of the "follow up" records of a number of institutions, shows that a large percentage of those admitted as incipient cases and discharged wtih the disease arrested or apparently cured have succumbed to tuberculosis before the end of 10 years. Pickens'[3] in an article on "Expectation of Life in Pulmonary Tuberculosis" (male cases, averaging 30 years of age, in Glasgow) concludes "that the expectation of life at a sufficiently early stage to raise hopes of recovery is about 6½ years; of cases discharged with the disease arrested is about 14 years. The normal expectation of life of all males in Glasgow at the age of 30 may be taken as 30 years." Clinical tuberculosis at any stage is therefore not a minor ailment but a serious disease.

RESULTS ON DISCHARGE

Condition on Admission		Arrested	Quiescent	Improved	Unimproved	Deaths
Incipient	20	16	1	2		1*
Mod. Advanced	37	15	11	8	2	1
Far Advanced	153		27	27	27	72
Non-Tubercular	11		2	5		4
Total	221	31	41	42	29	78

*Died of Influenza-Pneumonia about a week before he was to be discharged as an arrested case.

The results obtained in the incipient and moderately advanced stages compare favorably with other institutions, including those located in the mountains and accepting only favorable cases. This confirms our belief that altitude and climate play an unimportant part in the treatment of Tuberculosis. All those discharged as arrested, completely regained their health, and those discharged as quiescent or improved, fully or partially regained their earning capacity.

The results in the far advanced stage are not bad considering the extreme illness of the patients on admission. One patient was so ill she died within 24 hours of admission, 3 more lived less than a week, 12 less than a month, 12 less than 2 months and 13 under 3 months. In all, 41 or nearly 57% of the advanced cases dying of the disease or over 26% of those admitted in the advanced stage were so ill they lived less than 3 months. As the average duration of Clinical Tuberculosis is about 3 years, certainly no undue haste was shown in making a diagnosis in these cases.

Since so many patients died the question naturally arises, do the results justify the annual expenditure for the maintenance of the Sanatorium? The answer is yes, and although the number who regained health represents an actual economic gain to the community, would be the same if all the patients cared for were advanced cases. Prevention is more important than cure. It is principally by the advanced case that the disease is spread. The writer firmly believes that the segregation, care and education of the infectious case is the most important factor in preventing the spread of tuberculosis, provided these measures are instituted before the patient has done considerable damage in the way of spreading infection. He believes the value of the Sanatorium to the community at large is in direct proportion to the number of such cases cared for. Neusholme[4] after a careful study of the statistics in England covering about 40 years, to 1903, believes that the increase in the segregation of advanced cases during this period has been the most potent factor contributing to the 50% reduction in the death rate of tuberculosis. Segregation no doubt contributed to the decrease of 29½% in the death rate from tuberculosis in the United States from 1904 to 1916[5].

Just what amount of prevention has resulted from the segregation of the cases admitted to the Suffolk Sanatorium? A long time frequently elapses between infection and active disease, and the individual infected today may not develop clinical tuberculosis as the result of that infection for 5, 10, 15 or 20 years. It is evident then, that the result may not be shown by vital statistics for a number of years. Our records show the members of the patients' families, with whom they would have been in intimate contact, number about 1000. Therefore, we have potentially prevented that number from being infected. But it is reasonable to assume that some of the patients had already infected members of their families. On the other hand in many cases the radius of infection extended well beyond the family hearthstone and menaced others, because, for a long period before being completely incapacitated, the infectious case will mingle freely with others in the community. In the case of the butcher, baker, hotel cook, grocery clerk, green grocer, candy maker, cigarmaker, farm laborer, (whose duties included milking) and many other far advanced cases who worked almost to time of admission, it is obvious that the radius of possible infection included many with whom they came in no actual contact. The danger from bacilli laden sputum expectorated on the street and carried into homes on shoes and skirts must also be considered. The actual value of segregating in an institution patients very near death is problematical. While those in attendance are brought into more intimate contact with the very ill patient and often rendered less resistant by the arduous duty of caring for a helpless, careless and often very exacting individual, the radius of infection is certainly limited.

Prevalence of Tuberculosis in Suffolk County. The number admitted to the Suffolk Sanatorium represents only a small percentage of the cases in the county. A conservative estimate would place the number at over 1,000. An estimate based on the percentage of men rejected because of tuberculosis by a Local Draft Board[6], or upon the rejections by Draft Boards throughout the United States[7], making due allowance for the prevalence of tuberculosis among young adults would greatly exceed this number. According to number of living cases to each annual death (21 including arrested cases or 9 or 10 active cases) as found in the Framingham Survey[8] the estimate is not excessive. Two tuberculosis clinics were held in the county last summer. An effort was made to secure the attendance to the clinics, not of the obviously ill or known cases, but those who had lived in contact with known open cases. Out of 89 examined 34 were found to be tuberculous or suspicious cases.

A survey of the vital statistics relating to tuberculosis made at the request of the State Department of Health for 1914-1918 inclusive, showed 489 deaths due to tuberculosis or an average of 98 per year. 217 of these had not been reported as tuberculosis previous to death. 517 cases of tuberculosis had been reported during that period, 178 of whom were known to be alive and 67 could not be traced. For 1918, alone, there were 103 deaths from tuberculosis, 26 had not been reported previous to death. 1919 statistics are not complete. A physician of one town stated that the relatively few cases (nearly all far advanced) sent to the Sanatorium, represented practically all the tuberculosis in that town. Our statistics show 59 deaths from tuberculosis for the 5 year period, 23 cases not having been reported during the lifetime of the patients. 51 cases were reported, 8 of whom were known to be alive, and 7 of whom could not be traced. Tuberculosis is prevalent everywhere and it is no cause for shame that cases occur in any town or village. There is cause for shame if the physicians, health officers and other citizens do the "ostrich act" and make no effort to discover the cases or to prevent the spread of the disease.

The statement was made by a physician of a certain village that, "——has been cleaned up as far as tuberculosis is concerned." Since that remark was made 13 cases have been admitted to the Sanatorium from that village and there are about 20 known cases. However, that village is to be congratulated upon the fact that anti-tuberculosis and general public health work has been, and is being, most efficiently carried on there and a large number of cases have been sent to the Sanatorium. No community can be said to be "cleaned up as far as tuberculosis is concerned" until all sources of infection, both human and bovine, have been dammed up and all conditions which tend to lower individual resistance and convert infection into clinical disease have been remedied. The complete eradication of tuberculosis cannot be absolutely determined until every individual, including the youngest infant, has lived his life and future generations have remained free from the disease.

Do the 103 deaths (1918 number) attributed to tuberculosis each year represent all those whose death was due to this disease? The writer thinks not. He believes that many deaths due to tuberculosis, particularly at the extremes of life are attributed to other causes. At one time it was thought that tuberculosis as the cause of death in the aged was not common. 9 patients over 60 years of age have been admitted to the Sanatorium. It is unlikely that the cause of death in the two patients over 71 and one over 82 who succumbed to the disease would have been given as tuberculosis, had they not fallen into the hands of physicians who took sputum specimens. One had been diagnosed for years as chronic bronchitis, another as chronic pneumonia and the third as asthma. The causes of death as given in 4 known far advanced cases who died during the past year were chronic bronchitis, chronic nephritis, mitral insufficiency and cardiac syncope.

Tuberculosis as the *stated* cause of death in young children is very rare in Suffolk, yet as tuberculous peritonitis and other forms of tuberculosis are responsible for a large percentage of deaths in early childhood, must occur frequently in this county.

Shenan (quoted by Cobbett)[9] found from a study of the post mortem records of 1,085 children who died at the Royal Hospital for Sick Children at Edinburgh, that tuberculosis was the cause of death in nearly 39%. Coates (quoted by Neusholme)[4] found that 35.5% of deaths from all causes at the Great Ormond St. Children's Hospital, London, were due to tuberculosis and considers we can safely affirm that of the total deaths under 10 years of age among the masses, one third are due to tuberculosis.

How does the tuberculosis mortality rate in Suffolk County compare with other sections of the country? Assuming that the number of deaths stated as due to tuberculosis in 1918 represents all those who died from the disease, Suffolk County has a mortality of about 94 per 100,000. This is comparatively low. The mortality from pulmonary tuberculosis in certain cities[10] in 1918 was as follows: Rochester, 91 per 100,000; Baltimore, 102; New Haven, 106; Minneapolis, 108; Jersey City, 119; Boston, New York, Buffalo, Newark and Washington, all had rates between 150 and 160 per 100,000.

Immediate Needs in Suffolk County. (1) Additional facilities for the Sanatorium care and treatment of the tuberculous. Since the average number of patients cared for annually in the County Sanatorium is about 75 and the annual number of deaths in the County is over 100, it is evident that the Sanatorium is inadequate to care for even those who must annually inevitably die from the disease. As in many other counties, the type of buildings erected do not provide adequate facilities for the hospital care of such a large percentage of very ill patients. As a result patients in all stages of the disease are treated together in open wards and it is not always possible even to segregate the dying from the living. Surely these unfortunate individuals deserve the best care that can be accorded them, everything which may aid them in regaining health, if this be possible; comfort during their remaining days, if we can do no more than prolong theier lives; quiet and privacy during their last moments, if a fatal ending is inevitable.

An appropriation of $75,000 has been requested from the Board of Supervisors for the construction of an infirmary building for the hospital care of bed patients, and we hope will be granted in the near future.

(2) Provision for the care of tuberculous children.

(3) Education of the public regarding tuberculosis, modes of transmission, channels of infection, early symptoms, and methods of prevention and general hygienic principles.

Educational lantern slides illustrating important points about tuberculosis, with an explanatory talk, have been shown in moving picture theatres. Pamphlets on "What You Should Know About Tuberculosis" have been distributed, and important information given to individuals and families by the county nurse.

(4) Co-operation of all the physicians and others interested in preventative medicine and public health work.

As tuberculosis clinics offer an excellent means of arousing the interest of the medical profession and laity, it is planned to hold such clinics in the larger villages. Examination of known contact cases will undoubtedly result in finding a larger percentage of early cases. These clinics will make generally known to the people of the county the opportunities for aid the sanatorium offers to them.

Although the writer has imbodied a number of friendly criticisms in this article, his experience in other sections of New York, and other states, leads him to believe that in diagnostic ability and interest, most of the physicians of Suffolk County, equal those of other sections, and conditions similar to those we are finding in this County exist wherever the organized anti-tuberculosis campaign is of comparatively recent origin.

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SOME PEDIATRIC INFLUENZA STATISTICS.*

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Brooklyn, New York.

WHILE much has been published regarding influenza as affecting adults, comparatively little has appeared as bearing upon children. The Writer had an unusual opportunity for observation, in his service at the Children's Hospital, a part of the Kings County Hospital plant, and believes that the records are of some interest.

CHILDREN (12 YEARS AND UNDER) SEPTEMBER AND OCTOBER, 1918.

Total number of influenza cases admitted		317
Recovered	273	
Died	44	
Mortality	13.8%	
Total number of cases without major complications		203
Recovered	201	
Died	2	
Mortality	0.98%	
Total number of cases with major complications		114
Recovered	72	
Died	42	
Mortality	36.8%	

The complications, as figured below, present some points of interest. Among the pneumonias, no case was recognized as of the lobar type. Considering the number of cases, meningitis was a very small factor. Influenza has been regarded as causing more middle ear infections than most other diseases of the infectious class. This is hardly supported by the incidence, in this series, of one otitis media in each 6.3 cases. The Writer has cut down to a marked degree the development of ear complications in infectious diseases, by the use of argyrol, as a standing order in the hospital wards. A 20% solution is employed; half a dozen drops in each nostril every six hours. The patient remains on the back for at least five minutes after the instillation. The crippling of the nursing force by influenza did not admit of this precaution.

MAJOR COMPLICATIONS

Broncho-pneumonia.

Total number of cases		111
Recovered	72	
Died	39	
Mortality	35%	

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* Read, in part, before The Brooklyn Pediatric Society, Dec. 18, 1918.

MENINGITIS.

No. of cases		2
Died	2	

Pneumococcus found in one spinal fluid, no organism in the other.

GANGRENOUS STOMATITIS (NOMA).

No. of cases		1
Died	1	

MINOR COMPLICATIONS

Otitis Media	50
Stomatitis	17
Abscess, in region of jaw	1

It is to be noted that many of the pneumonia cases were in hopeless condition when received—twenty dying within forty-eight hours after admission. If it were fair to the Hospital to exclude this group, the showing would be as follows:

General Mortality from influenza	8%
Pneumonia Mortality	20%

The Writer was interested to learn the incidence of influenza and pneumonia among Brooklyn children. Dr. Herman T. Peck, Assistant Sanitary Supervisor, Dept. of Health, and in charge of this Borough, has very kindly collated the figures given below. It is of course not possible to compare these statistics with hospital records. The former include all grades of cases, the latter the more severe. The general Borough mortality is based on the development of 10.6% of pneumonias. The Children's Hospital shows 35%, because of the direct admission, as well as the development of pneumonias.

REPORTED CASES OF INFLUENZA, OCT. 1 TO DEC. 31, 1918 INCLUSIVE.

Under 5 years	4,659
5 to 15 years	8,478
Total	13,137

REPOTED CASES OF PNEUMONIA, SAME PERIOD.

Under 5 years	697
5 to 15 years	707
Total	1,404

DEATHS FROM INFLUENZA.

Under 5 years	563
5 to 15 years	296
Total	859

DEATHS FROM PNEUMONIA (broncho and lobar)	
Under 5 years	829
5 to 15 years	306
Total	1,135

The apparent mortality from influenza under five years, 12%, can hardly be accepted at face value. Unrecognized pneumonia doubtless played a leading part.

The mortality from pneumonia under five years would show as 119%. Dr. Peck writes: "As you will notice, there are more deaths recorded from pneumonia under five years than reported cases. This is undoubtedly due to the fact that there were non-influenzal cases of pneumonia reported, a proportion recovering; whereas many of the cases reported as influenza undoubtedly subsequently developed pneumonia and the death certificate reported pneumonia as the cause of death. Of course we had no way of knowing the total number of cases beginning with influenza that subsequently developed pneumonia, as, during the rush of the epidemic, cases were being reported at the rate of 1,000 to 1,600 a day and we could not check back on the pneumonia to find out if they had previously been reported as influenza. In many instances the physicians considered that they had met with the Department requirements in reporting the original case of influenza.

Inasmuch as competent authorities claim that death from influenza, per se, is rare, being almost invariably due to a complicating pneumonia, even though the physical signs are not apparent, it would probably be more accurate to say that we had 14,541 reported cases of influenza and pneumonia, under 15 years, with 1,994 deaths —an average death rate for this group of 13.7%."

The condiitons, mentioned by Dr. Peck, as applying in cases under five years, would naturally pertain in the five to fifteen year classification, making the percentage mortality (43%) unreliable.

At a meeting of the New York Academy of Medicine, Oct. 17th, 1918, Department of Health figures were read, by a representative, showing an influenza mortality, up to date, of 9.9% under five years, 5% from five to fifteen years.

As a basis for comparison as between pediatric and general mortality, the figures of the Greater City are of interest. By the end of November, 1918, the epidemic had practically burned itself out in this locality. The newspapers, which had been printing daily the Health Department's figures, reported the following total of cases from the beginning of the epidemic to the end of the day Nov. 30.

CASES OF INFLUENZA	130,606
Deaths	10,974
Mortality	8.4%
CASES OF PNEUMONIA	19,730
Deaths	10,229
Mortality	51.8%

It is not possible to draw conclusions from the pediatric statistics given; figures for the entire country are now being collated and will perhaps show a lower influenza mortality at five to fifteen years than at other ages—possibly a lower pneumonia death rate.

With the very large number of influenza cases added to the regular service, the Visiting Staff at the Children's Hospital was under heavy tax. The Writer desires to note appreciation of the faithful work of his colleagues, Drs. Walter D. Ludlum, Francis B. Hart and George E. Brockway, as well as the unremitting attention of the House Physician, Dr. J. J. Giblin.

THE WORK OF THE MENINGITIS DIVISION OF THE RESEARCH LABORATORY.*

Josephine B. Neal, M. D.

New York City.

ALTHOUGH the Meningitis Division was established by Dr. Park in July 1910 New York is a large city and many physicians are still unaware of our existence and the work we are doing.

This division consists of a staff of physicians specially trained in the diagnosis of meningeal conditions, the technic of lumbar puncture, the treatment of meningitis and the interpretation of spinal fluid examination with a laboratory for the examination of spinal fluids withdrawn by ourselves and also those sent in by private physicians and hospitals.

As all forms of meningeal involvement are comparatively rare except in times of epidemics of meningitis or poliomyelitis, it is to the advantage of the general practitioner to have specialists upon whom he can call in the diagnosis and treatment of such conditions. While the administration of diphtheria antitoxin is a rather simple matter and the dosage is fairly well established and constant the technic of lumbar puncture and the administration of antimeningitis serum is much more complicated, the outcome of the case depending in no small degree on the experience of the physician in dealing with meningitis. It is also to the advantage of New York City to have such specially trained physicians to assist in the epidemics of poliomyelitis and meningitis which arise from time to time.

All cases of suspected meningitis or poliomyelitis reported to the borough offices are referred to us, whereupon we call up the physician and offer to see the patient with him if he so desires.

We see a patient with the physician in charge of the case for a number of reasons. First; we wish to work with the private practitioner, not to encroach in any way in his practice, and of course a diagnosis can be more satisfactorily reached in consultation. Moreover the treatment of cases of epidemic meningitis requires the closest possible cooperation. Secondly; doing a lumbar puncture and administering serum with the necessary aseptic precautions requires more assistance than the family can usually give, and the presence of their own doctor makes them more ready to submit to a procedure which is, to them, more or less terrifying. Thirdly; if the patient is very ill and dies a few hours after the puncture, the family is better satisfied if their own physician has agreed with us as to the advisability of the operation.

Considerable time may be saved if physicians, wishing us to see a patient, call up the meningitis division, located at the Research Laboratory of the Department of Health. The telephone number is Stuyvesant 1600. This does not take the place of the report to the borough office. Spinal fluids withdrawn by the physician are examined at the laboratory and a report telephoned. To secure prompt and satisfactory results, the fluids should be collected in a sterile container and sent immediately, by messenger, to the laboratory. Fluids should never be left at the stations, as delay results and the fluids are usually unfit for examination when they reach us. While we are constantly on call, it is desirable that night and Sunday calls be reserved for real emergencies, as the force is small and the transportation facilities at night are far from good. By emergency cases, we mean those that have been taken acutely ill within a few hours. Cases of several days' standing are not endangered by a delay of a few additional hours in the administration of serum. I must confess to a feeling of some annoyance when I am called around midnight to see a case of tuberculous meningitis that has been sick for about two weeks.

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* Read before the Brooklyn Pathological Society, January 8, 1920.

The following table shows the distribution of cases.

Number of Cases By Years, July 1st 1910, to July 1st 1919

	1910 1911	1911 1912	1912 1913	1913 1914	1914 1915	1915 1916	1916 1917	1917 1918	1918 1919	Total
Epidemic Meningitis	17	25	29	41	38	61	87	113	82	493
Tuberculous Meningitis	22	44	37	51	66	71	68	93	58	510
Other Meningitis	11	7	11	18	19	32	26	19	12	155
Anterior Poliomyelitis	1	25	16	5	11	78	347	39	21	543
Pneumonia	6	8	16	22	22	24	36	33	32	199
Other Diseases	14	30	20	53	60	86	144	92	119	611
	71	139	129	190	216	352	708	389	317	2511

All these types of cases are interesting and a paper much more extensive than this could be devoted to even a general discussion of any one of them. Other diseases includes, of course, a large number of conditions. Chief among them is meningism occuring most frequently in the pneumonia, but also with gastro-intestinal condition and any acute infection.

Meningism is characterized by the presence of meningeal symptoms of varying degrees of intensity and a spinal fluid, increased in amount, but ordinarily in our experience, normal in character, except in a few special diseases such as mumps and typhus and in three fairly well defined conditions, namely: severe and prolonged convulsions, cases of long standing, and cases in which there is anotitis media or some other inflamation near the dura. This last type is usually described as meningitis sympathetica. When the fluid is not normal it shows an increase in the cells or protein content, or both, but with an absence of bacteria and a normal reduction of Fehling solution.

Here are also included about forty cases of epidemic or lethargic encephalitis and since July we have seen about twenty additional cases —which have been on the whole more typical than the earlier ones.

While atypical or mild cases occur in some number, the most striking picture shows a gradual onset usually with diplopia or with some other disturbance of vision, profound lethargy and asthenia and a protracted course marked often by remissions and exacerbations. The spinal fluid findings are similar to those of poliomyelitis—a varying increase in the cells with a preponderance of mononuclears, a slight to moderate increase in the albumin and globulin and a normal reduction of Fehlings. Our own examinations and those of most workers have shown no organisms by smear or culture.

Another interesting condition that we have been able to study is meningeal hemorrhage, occuring without trauma. This is called by the French medical meningeal hemorrhage and while it has been studied extensively in France, has received but slight attention in this country or in England.

The cases closely resemble clinically a severe form of meningitis and the diagnosis is established only by lumbar puncture which reveals a bloody fluid of uniform intensity when collected in successive tubes. This fluid is negative bacteriologically. The bacteriological examination being the only one of special value if the fluid contains a large amount of blood. With the smaller amounts of blood the presence of a normal reduction of Fehlings helps to rule out meningitis for it must be borne in mind that menigeal hemorrhage may occur in connection with a true meningitis. Cases that I have seen have been for the most part in infants, adolescents, and young adults, but there have been a few cases in middle age. It is not always possible to be absolutely sure that one may not be dealing with a cerebromeningeal hemorrhage.

The question of poliomyelitis need not be discussed at this time.

In regard to tuberculous meningitis I wish merely to state that no case in our experience in which the diagnosis has been confirmed has recovered. Although we read from time reports of recoveries it must be remembered that the positive diagnosis is not easy to make except in the presence of a large number of organisms where recovery would not be expected, and that even a positive reaction in one guinea pig might not be infallible as the guinea pig might have acquired its tuberculosis elsewhere.

A number of different pyogenic organisms may invade the meninges and set up a meningitis. In our experience next to the meningococcus the pneumococcus is the most common cause, followed by the streptococcus, influenza bacillus and stphylococcus, in the order named Of 110 cases, 45 were due to the pneumococcus; 36 to the streptococcus, 23 to the influenza bacillus and 6 to the staphylococcus. Other forms, for example the pyocyaneus, Friedlander's bacillus, etc. have occurred only in single instances. All of our cases except one due to the streptococcus and one due to the staphylococcus have resulted fatally. A point that seems worth emphasizing is that while these forms of meningitis are usually secondary to some primary focus the existence of a possible primary focus makes it by no means certain that a meningitis present is secondary to it. That is, given a pneumonia with signs of meningitis we may equally well be dealing with a meningism accompanying the pneumonia, a pneumococcus meningitis secondary to it, or an epidemic meningitis existing side by side. Therefore, there should be no delay in establishing by lumbar puncture the correct diagnosis. Our experience in doing lumbar punctures in cases where a sepis must ofen be present has not led us to believe that a withdrawal of the spinal fluid is likely to result in the development of a meningitis. Indeed the improvement following the relief of pressure in meningism is so great that we have felt the procedure was justified on therapeutic grounds alone.

From the standpoint of epidemiology, diagnosis and treatment epidemic meningitis is perhaps the most important of these classes. From an epidemiological standpoint poliomyelitis and epidemic meningitis seem closely allied, since even in times of epidemics so few relatively of those exposed contract either disease. In each the greatest incidence is ordinarily found among children except, of course, in those unusual occurrences when epidemics are confined by force of circumstances to a certain age group as in Army camps. In the epidemic in New York City in 1904 '05 and '06 over 65 per cent of the cases were in children under ten years of age. Of 500 cases that we have studied 337 or 66 per cent were under ten years of age.

It seems probable in poliomelitis and it is fairly easily shown in epidemic meningitis, that the greatest menace is the carrier but in view of the indirect way in which a susceptible person can contract the disease and the impunity with which most people associate with either patients or carriers the question of quarantine and of dealing with carriers becomes a very difficult one. In our first 500 cases in only thirteen instances did secondary cases develop in the same family.

It is obvious that when organisms of various types and virulence invade individuals of varying resistances an almost endless variety of diseases should result. It has seemed to us that in general the cases may be classified as follows:

1. Acute forms including—
   (a) Ordinary acute form, in which the patient is dead, or well on the road to recovery in two or three weeks.
   (b) Fulminating type.
   (c) Septic type.
2. Chronic forms:
   (a) Ordinary chronic form lasting three weeks or over but without basilar meningitis or other blocking-off, so far as may be determined clinically.
   (b) The form with basilar meningitis or other walling-off.
   (c) The relapsing type.

Most of these types are self-explanatory and are familiar to all who have had considerable experience with meningitis. In our own experience with sporadic cases and in the experience of most workers with meningitis the septic type has been rare and we are indeed indebted to Dr. Herrick for the valuable contribution that he has made to this subject—the most valuable, I think, that has ever been made.

Since the last epidemic of meningitis in New York City in 1904-5 it has been generally believed, I think, that in most if not all cases of meningitis the meningococcus gains access to the meninges through the blood stream but ordinarily this invasion is a very fleeting one and should be considered as a bacteremia rather than a septicemia and meningitis is developed before the report on a blood culture could be obtained even were it done very promptly on the onset of symptoms. Of course, all acute infections have a somewhat similar mode of onset-headache, chill, fever, vomiting—and a diagnosis either by clinical findings or blood culture cannot be made with any degree of certainty until forty-eight hours or so have elapsed from the onset. No organism is absolutely selective in its point of attack and in the epidemics occurring in a certain number of Army camps where the septic type of meningitis has seemed from the literature to predominate, relatively large numbers of extra meningeal infection have occurred. This has not, however, been true of all the camps and it is hardly fair to judge a disease by a single epidemic or by a number of outbreaks occurring at approximately the same time and under the same conditions especially when these conditions are such as would never be reproduced in civilian life. For example, epidemics of measles in camps are often quite different from the epidemics occurring in civilian life, especially as to the pneumonia complications. While the pneumococcus, for instance, may invade the blood stream and set up an otitis media or a meningitis or any other of half a dozen conditions, in the vast majority of cases, it means pneumonia. So, we find where there is an invasion of the blood stream with the meningococcus, in the vast majority of cases it means in civil life, at least, meningitis—and the complications and sequellae occurring will be from direct extension from the meninges rather than blood borne infection. To what extent the type of the invading organisms influences the type of the disease, I am unable at present to state. We have typed at the Research Lab'y 49 cultures from spinal fluids, 19 belonging to type I, 8 to type II, 4 to type III and 19 heterologous strains. From this limited number we have been unable to draw any conclusions. More work is being done. In France Netter and Sainton attributed the increasing number of cases of the septic type in the last two or three years to a change in the type of organisms from type A (Gordon's I and III) to type B (Gordon's II and IV).

The presence of meningitis is shown in adults and older children by headache, stiffness of the neck, vomiting, and constipation. The exact kind of meningitis can be determined only by a lumbar puncture. In children, especially those under one year, the diagnosis is extremely difficult and a bulging fontanelle or an unexplained temperature is sufficient warrant for a lumbar puncture. A meningitis may exist without either of these symptoms and one can do no better than quote the advice of Debré—"In time of epidemic do a lumbar puncture on every infant sick without apparent cause." Certain it is that meningitis may exist in an infant with very little in the way of physical signs or symptoms and I have become very unwilling to say that a child though apparently not very ill is not suffering from meningitis until I have done a lumbar puncture.

Dr. Herrick has placed considerable emphasis on an inequality of the deep reflexes on the two sides being an early sign of meningitis. That has not been our observation. Indeed during the epidemic of poliomyelitis in 1916 we said that such an inequality suggested the diagnosis of poliomyelitis rather than a menigitis. In studying Dr. Herrick's table, moreover, we observed that in only 13 out of 208 cases was this inequality observed, and in 12 of these cases the reflex on the right was greater than on the left.

The spinal fluid may vary from a practically clear fluid withdrawn within the first twelve to twenty-four hours especially in the fulminating type to a fluid so thick and purulent that it will run only with difficulty through a large calibre needle. The degree of purulence of the fluid seems to have little influence on the outcome. The clear fluids containing rather large numbers of menincococci, in our experience, have been followed by an unfavorable outcome usually very speedily and some of the thickest and most purulent fluids have cleared up with surprising speed after two or three injections of serum. The fluid should be cultured on suitable media after it is withdrawn. We obtain very good success with glucose asitnic agar neutral to phenolphthalein. Very good results also may be obtained on vitamin agar containing a little blood. The reaction is very important and so also is the temperature, which should be 35° to 37°; a higher temperature than 37° is inadvisable. Unless there is a very heavy sediment the fluid should be centrifuged before culturing as the number of organisms is often small. As the case improves the organisms tend to become more and more intracellular and fewer in number. Sometimes organisms will show in the smear which do not seem to have sufficient vitality to grow and sometimes a positive culture can be obtained when the number of organisms is so few that one is not sure of their presence from the smear. The culture should not be pronounced negative until at least seventy-two hours have elapsed. We feel that an important prognostic point is the return of the reduction of Fehlings, which is usually greatly diminished or lost at the height of a severe case. While the return of Fehlings reduction, is not invariably accompanied by a favorable outcome and while some recovering cases continue negative until after treatment has been discontinued the general rule holds good.

The method of treatment of meningitis that we have found most efficacious in the majority of cases is the daily administration of moderate doses of serum, rarely more than 20 cc., after drawing off sufficient spinal fluid to reduce the pressure to practically normal. This treatment is continued until the fluid is negative as shown by a forty-eight hour culture. Further administration depends on the clinical condition of the patient. It is occassionally necessary during convalescence to withdraw the fluid two or three times to relieve the pressure without serum being given. The number of injections varies greatly. We have found it is rarely safe to give less than four injections, and six to eight is much more commonly necessary while in some prolonged cases twenty or more may be required. Of course, there is no general rule that applies to all cases and exceptional cases require exceptional treatment. Sometimes it may be advisable to do the second and perhaps the third lumbar puncture at intervals of fifteen to eighteen hours. It has not seemed to us that the intensive intraspinal treatment, in which thirty to forty cc. or even more are repeated in eight to twelve hours, is advantageous. I have never seen any statistics that prove the advantage of this method over the more conservative one and our own early experience in giving larger doses of serum did not warrant us in continuing them.

From a theoretical standpoint, it is difficult to say whether or not the administration of serum every 8 to 12 hours should be better than every 24 hours. While the exact action of the serum is not known, it is believed to exert both a bacteriotropic and a bactericidal influence, the bacteriotropic action being probably the more important. In just what dilution this action may take place, how long it takes the cells to react to their maximum phagocytic power, and how long this power is retained by them, we do not know. From work done by Dochez and Horn, it is probable that all the serum is not excreted from the spinal canal for about 24 hours. Of course, it becomes greatly diluted before this time. It is not at all impossible, however, that cells still having a high phagocytic power may be withdrawn by a puncture 8 hours or so after the serum is administered. We do know that the administration of serum is, in a large percentage of cases, followed by a reaction, which begins in from 2 to 8 hours, and continues for 8 hours or more as a rule. This reaction is ordinarily characterized by a rise in temperature, and increased headache and restlessness. Just what relation to the therapeutic action of the serum these manifestations have I do not know, but I have always questioned whether it were well to do a lumbar puncture and give serum before this reaction has passed.

It has always seemed well to me to keep in mind the fact that we are treating the patient as well as the infecting organism, and that very frequent and large intraspinal injections may be harmful to the patient, to such an extent as to overbalance any possible benefit from an increased concentration of the serum. Doing a lumbar puncture and giving serum is a procedure that subjects a patient to so much discomfort that on this basis alone its too frequent repetition is not desirable.

In regard to the intravenous administration of serum I have had little personal experience. Netter whom we must regard as perhaps the foremost authority in the world on meningitis, warns against the intravenous administration of serum even in the septicaemic type on account of the severe reactions that occasionally follow this procedure. While there was a lower mortality in the cases which Dr. Herrick treated with large doses of serum intravenously two points must, I think, be borne in mind before we attribute the improvement in mortality entirely to the intravenous injections. One is that this method was used in the latter part of the epidemic and it is, I think, generally accepted that the average mortality at this stage is decreasing. As Dr. Park said in regard to the recent epidemic of influenza, "if you wish to prove that a method of treatment is of no value use it during the ascending period of an epidemic. If you wish to prove that a method of treatment is of value use it during the descending curve of an epidemic." Moreover, as Dr. Herrick's statistics show the average number of intraspinal injections during this latter part of the time was 7-2/10 while in the earlier cases only 4-6/10 injections were given on the average. Our own experience would lead us to believe that 4-6/10 is generally too low an average of injections unless one is dealing with a very mild type of disease and, of course, the septicaemic type is always of the severer sort. Stone and Truitt, working with a fairly large number of cases, obtained a mortality of 28-1/10 per cent by the combined therapy and 28-9/10 per cent using the intraspinal method only. It seems obvious from their study that their cases were not generally of the septicaemic type. Certainly the septicaemic cases described by Herrick as occurring commonly are quite different from the type of meningitis that we usually see in civilian life and it is hardly to be expected that we can agree on the same method of treatment for evidently different types.

It must be emphasized, I think, that the relative value of two methods of treatment can be absolutely proved only when they are used simultaneously on parallel cases.

It has been our custom to use an autogeneous vaccine in cases running a prolonged course or in those tending to relapse. In some instances, it has seemed to be of value but we do not feel that we have used it in a sufficiently large number of cases to say definitely. At any rate it has not seemed to be productive of harm and I am unable to see how it could be dangerous. We have found it necessary to use fairly large doses beginning usually with a half billion and increasing until three or four or sometimes even eight billion has been reached.

The general care of these cases is of great importance. It approaches so nearly the character of any acute infection that may be prolonged such as typhoid or pneumonia, that a discussion of it at this time does not seem necessary. It is, however, necessary to emphasize that the general treatment must not be neglected because we have a rather specific method of treatment. The three most important essentials are —proper feeding, allaying the restlessness, and attention to the bowels and bladder, retention being a not uncommon occurrence and constipation usually being obstinate.

For the last two or three years we have been able to maintain a mortality of twenty to twenty two or three percent, which is not bad considering the relatively large number of cases under one year with which we deal in whom the mortality runs nearly to 50 percent. Of course, most of the cases have usually been ill for several days before we are called to see them.

SPRING MEETING

JUNE 19

AT

BLUE POINT

EDITORIAL

AN OBJECT LESSON

A RECENT letter signed by John F. W. Meagher as President of the Brooklyn Neurological Society, has for its text the recent death of Dr. Markoe at the hands of a maniac. The point emphasized, and quite properly so, is the weakness of the present method of the legal determination of insanity, which leaves to a lay jury the ultimate decision as to whether or not the man is insane and empowers a judge to set aside the diagnosis of a medical expert.

This matter opens up the entire question of expert testimony and once more brings into prominence the intrinsic weakness of the medical aspect of the situation. It would be ideal if an impartial commission of two or three qualified experts in mental diseases could be appointed to pass judgment upon every case in which insanity figures before the courts, and if it could be made obligatory that every such judgment should be accepted as final. This would do away with a lay jury and put a check upon judicial discretion. Unfortunately the medical profession has yet to reach that stage where it can point to itself and say with justifiable pride, "we can be implicitly trusted when we offer expert testimony." The spectacle of flat contradiction of medical evidence is so common, that the lay mind is perfectly justified in questioning whether expert testimony can be trusted, and the profession has permitted so many to proclaim themselves as medical experts who are in no wise qualified, as to justly deserve the suspicious attitude that is held toward it alike by lawyers, judge and jury.

It may be reasonably questioned, too, how far such lamentable tragedies as that of Dr. Markoe are preventable, because so many of them occur as the first manifestation of paranoia that has been previously unsuspected. There can be no doubt however that much of the scandal that surrounds the present attitude of the State toward the criminal insane could be obviated were the commission idea to be put into practice. If this is too great a step at this time, it can at least be agitated and its advantages discussed until such time as public opinion can be moulded to accept it.

H. G. W.

OVERALLS.

SOME earnest souls in Arkansas, virtuously indignant at the idea of wearing clothes that at the cheapest are extortionately dear, struck upon the happy notion that blue denim overalls offered a solution of their trouble. What garment could be more appropriate, for does it not combine with cheapness a hint of the nobility of labor with the essence of rugged grandeur in outline? It covers all things with becoming modesty, adapts itself to every figure and offers low visibility against a sky line. But no sooner does the heart of the middle West throb with justifiable pride over its achievement, than the effete and plutocratic East snatches the idea and reduces it to an absurdity. The blue denim overall was originally designed to contrast with the red flannel undershirt of our forefathers, but the perspiring toilers of Fifth Avenue cry out against it because the dye ruins their silk under-garments; and already fashionable tailors are offering over-alls trimmed with fur, and have even suggested silk overalls! Heaven forbid! Silk pajamas are extravagant enough though in their place entirely appropriate; but silk overalls—the entire vagus system revolts at the notion.

The American mind seems to have been swept with a contagious outbreak of extravagance. It is not only extravagant in its clothing, in its pleasures, in its boastfulness, but it is beginning to accept such extravagantly foolish notions and ideals, that unless the sober judgment of the remnant of clear seeing and strong minded people rises to meet the situation, national catastrophe is bound to ensue. The situation may be expressed in the following paraphrase of one of the most charming of all limericks:

"Consider the white plumaged pelican,
His habits are truly American,
He gobbles with zest,
Everything that's the best,
And his beak will hold more than his belly can."

One would like to add, what a contrast to the Hindu, who is

"Doing the best that he kin do.
He sticks to his cast
From the first to the last,
And for clothing he just makes his skin do."

H. G. W.

THE LIBRARY OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

HOW many have read Mr. Frankenberger's extremely interesting and valuable description of the Medical Library and how to use it published in the April number of this Journal (Vol. 14, No. 4, page 163)? Did you know that it is the fifth largest library in this country? Did you realize that it lists forty Spanish periodicals, many of them from South America? Did you know that there are 542 periodicals listed there? And did you realize that by combining the references in this Library with the loan privilege of the Surgeon General's office, that you could obtain the most complete list of references for your use on any subject you need? Have you accustomed yourself to looking up references? And have you formed that splendid habit of general reading, which can be so easily and profitably indulged in the comfortable reading-room at 1313 Bedford Avenue? Have you learned for yourself how helpful Mr. Frankenberger's suggestions are and how ready he is to meet you half way? All these things and much more of a very practical sort is contained in Mr. Frankenberger's paper, which you are urged to read. And in this connection do not forget that the practical value of a library is enhanced by the use to which it is put, and the more that it is used the more valuable it becomes.

There is great need for a larger interest in the Library, and for a larger sustaining fund in order that it may be kept equipped to the full measure of usefulness. Should you know a public-spirited man with an interest in general education, tell him about the Library and try to get his contribution toward enlarging it. A number of small patrons is even better than a single large donor. Do your bit.

H. G. W.

SPRING MEETING

JUNE 19

AT

BLUE POINT

Obituaries

DEPARTMENT UNDER THE CHARGE OF WILLIAM SCHROEDER, M.D.

SAMUEL BELASH CHILDS, M. D.

Born in Brooklyn, N. Y., September 13, 1843 and died in Brooklyn, N. Y., November 8, 1919. He was a son of James R. Childs, U. S. N., and Harriet Woods.

His medical education was at the University City of New York, where he graduated in 1869. For forty-five years he held the position of physician to the Faith Home for Incurables, and a member of the Medical Society, County of Kings from 1870.

He is survived by his widow, Harriet Hickox Childs, daughter, Miss Edna Childs and a son Albert Childs, M. D., of Litchfield, Conn.

STEPHEN HENRY LUTZ, M. D.

He was born in Elizabeth, N. J., May 16, 1872 and died in Brooklyn, N. Y., October 17, 1919. He was the son of Stephen M. Lutz and Margaret Cook. He was educated in the schools of New York City. His medical education was receivd at Dartmouth Medical College, where he graduated in 1893, and the following year from the College Physicains and Surgeons, N. Y. A fellow of the American College of Surgeons, American Medical Association, American Ostological Society, American Laryngological, Rhinological, and Otological Society, New York Otological Society. A member of the medical Society County of Kings of which he was president and the first president to die in office—a member from 1897-1919, and of the Associated Physicians of Long Island from 1901-1917.

He was surgeon to the Brooklyn Eye and Ear Hospital and the E. D. and Bushwick Hospital.

Dr. Lutz was married in 1899 to Miss Winifred A. Steppe.

WILLIAM CARAN WOOLSEY, M. D.

He was surgeon to the Brooklyn Eye and Ear Hospital and N. Y., June 24, 1919. He was educated at Stevens College Hoboken. His medical education was at the College of Physicians and Surgeons, where he graduated in the class of 1898. Interne at the Kings County Hospital 1898-1900. He was instructor in clinical diagnosis at the L. I. C. Hospital and Physician to the Polhemus Clinic and the Kings County Hospital, a member of the Medical Society County of Kings from 1900-1919.

SAMUEL HENDRICKSON, M. D.

Born in New York City and died at Jamaica, Long Island on May 20, 1918, he was graduated from the College of Physicians and Surgeons of New York in the Class of 1875.

During his professional life he was physician to St. Mary's Hospital, Jamaica and Health officer of Queens County. A member of the Queens Nassau Medical Society of which he was president in 1875-76 and the Associated Physicians of Long Island of which he was president in 1913-14.

Dr. Hendrickson is survived by his wife Emily.

HENRI M. AUGER, M. D.

He was born in Milton, Quebec, Canada, and died at Jamaica, Long Island, August 5, 1919. He was educated at the University of Buffalo, where he received his degree of M. D. in 1886. During his professional life he was a member of the Board of Health and visiting surgeon to St. Mary's Hospital, Jamaica, a member of the Associated Physicians of Long Island from 1899 to the time of his death. He is survived by his widow Helen.

WILLIAM A. DE LONG, M. D.

Born in New York City July 11, 1840 and died in Brooklyn, N. Y., October 3, 1919, he was the son of Joseph and Mary De Long. He was educated in the schools of this city and received his medical education at the University of New York, graduating in the class of 1863.

During the Civil war he was Assistant Surgeon in the 77th Regiment, N. Y., Volunteers. For 25 years he was connected with the fire department, a member of Abel Smith Post No. 435, G. A. R.., Marsh Lodge No. 188, F. A. M., of which he was a past master. The medical Society County of Kings from 1874-1919 and the Associated Physicians of Long Island, 1906-1919. He is survived by his sons, Joseph J. and Edward S. De Long, and a daughter, Mrs. Mary A. Harman.

FREDERICK WEISBROD, M. D.

Born in Brooklyn, N. Y., November 19, 1862, and died in Philadelphia, Pa., May 19, 1919. He was the son of Frederick and Elizabeth K. King, both of Germany. On February 4, 1892. Dr. Weisbrod married Rose H. Lyding, Brooklyn, N. Y. He was educated at the public schools and received his medical education at the University of New York, completing with the degree of M. D. in 1890.

During his professional life he was Gynecologist to the Bushwick and German Hospitals and a member of The Medical Society, County of Kings, from 1891-1900. American Medical Association, Brooklyn Medical Society, 1895-1919. Brooklyn Pathological Society and the German Medical Society of which he was President in 1902.

VER NOOY WAYLAND WEED, M. D.

Born in Brooklyn, N. Y., May 7, 1878, where he died on February 26, 1920. His medical education was received at the College of Physicians and Surgeons, New York, where he graduated in the class of 1900.

During his professional life he was surgeon to the Jamaica and Swedish Hospitals, a member of the Medical Society, County of Kings, 1901-20, American Medical Association, Brooklyn Pathological Society, Association Physicians of Long Island, 1905-20.

He is survived by his widow, Laura Davien and a son Gordon Weed.

PETER LAWRENCE SCHENCK, M. D., LL. D.

Born in Flatbush, L. I. Octobr 23, 1843 and died in Brooklyn, N. Y., March 6, 1920. He was educated at Erasmus Hall and received the degree of A. B. from the University of New York in 1862 and A. M., in 1865, his medical degree from the College of Physicians and Surgeons N. Y. in 1865, the degree of LL. D. from Washington College, Tenn., in 1898. During his professional life he held the position of physician to the Kings County Hospital, Cholera Hospital, Asst. Surgeon, Kings County Hospital and from 1872-81, Medical Superintendent. During the year 1865 he served in the Army as Hospital Surgeon. He was a member of the Medical Society, County of Kings, from 1872-1920, Master of Montauk Lodge, No. 286, F. A. M., 1885-86 and District Deputy, 3d Masonic District in 1887.

He was the author of the History of the Schenck family. He is survived by his wife Sarah S. White Schenck.

JOSEPH MERZBACH, M. D.

Born February 9, 1857, in Posen, Germany and died in Brooklyn, N. Y., April 28, 1919. He was the son of Herman and Charlotte Guhrauer both of Germany, educated in the Gymnasium, his medical education was received at the Long Island College Hospital where he graduated in the class of 1883. This was followed as interne in the same institution. During his professional life he was physician to the U. S. Marine Hospital Service, Hebrew Orphan Asylum, and Jewish Hospital, a member of the Medical Society, County of Kings, 1885-1919, Associated Physicians of Long Island, 1905-1919, German Medical Society, President 1906-07, Williamsburg Medical Society, President 1910-

JOHN AUSTIN KANE, M. D.

Born in Boston, Mass., in 1878 and died in Brooklyn, N. Y., January 23, 1920. He was educated in the Boston Latin School, and graduated from the Medical School of Harvard University in the class of 1902. He was in practice during his professional life in this city, a member of the Medical Society County of Kings from 1909-1920 and the Bay Ridge Medical Society.

He is survived by his widow, Catherine V. Leonard, two sons, Frederick and John and a daughter Caroline.

FRANKLYN BENNETT, M. D.

Born in Tuckertown, N. J., February 14, 1849 and died in Brooklyn, N. Y., December 28, 1919.

He was educated at the Pennington Seminary and graduated at the University City of New York in 1875.

He was a former member of the Medical Society, County of Kings, 1896-1916, and the Associated Physicians of Long Island, 1906-12. He is survived by his widow, Reba H. Holsten and three sons Frederick Marvin, Franklyn Inman and Warren Holsten Bennett.

SAMUEL AUGUSTUS WOOD, M. D.

Born in New York City, July 13, 1855 and died at Elmhurst, L. I. December 12, 1919, he was educated in the public schools of Manhattan and graduated from the College of Physicians and Surgeons, N. Y. in 1879.

He was twice married, first to Miss Susan Luddington. His second wife was Miss Gertrude S. Johnstone of Woodside, L. I. He is survived by his widow and one son, Frederick B. Wood, M. D. He was a member of the Associated Physicians of Long Island, 1910-19.

Society Transactions

TRANSACTIONS OF THE BROOKLYN PATHOLOGICAL SOCIETY.

Regular meeting, January 8, 1920.
Discussion:
Meningitis.

Papers on the Subject of Meningitis.

By Drs. Neal, Regan and Herrick.

Dr. Joseph C. Regan:

"Recently there were admitted to the hospital three cases, one of which reminds me very much of Dr. Herrick's description of the cases he has seen. There were six or seven children in this family. One of them was toxic with a very fulminating type of the disease and died in six or seven hours. One developed an extremely extensive purpuric and petechial rash (she was a girl of 16 years) with symptoms of meningitis. She was admitted in a very toxic condition and in her treatment it was necessary to employ both intravenous and intraspinal therapy. We used small doses of serum intravenously. We gave her 20 c. c. on the day of admission and 30 c. c. the day following. We treated her very energetically by intraspinal route using 12-hour treatments at first, and then 24-hour treatments. She recovered and is at present convalescing. The other two cases presented only joint symptoms with sore throats and an indefinite ecchymotic rash. They recovered with intramuscular injections of serum. Punctures were done in both of these cases and the fluid was clear, but the eruption and the fact that they were running a temperature and developed at same time and in the same family made us suspect that they also had a meningococcus infection Naso pharynx cultures proved positive for the meningococcus in both children. In addition to the intramuscular injections we gave one injection intraspinally.

"That brings up a point that is important and that is, the eye complications in meningitis. It is a useful precaution to take, I think, in all cases of meningitis, especially where a blood infection is suspected, to start instilling antimeningitis serum into the conjunctiva of each eye from the beginning of the illness. In that way we may tend, to a certain extent, to prevent involvement of the deeper structures. While it is merely an attempt at prophylaxis, nevertheless it may be worth while. When the eye does become involved we get inflammation in the iris, in the posterior chamber, in the vitreous and in the choroid, and it is then a question if it is not proper to adopt operative procedures, because of the condition goes on, the result is always very complete blindness, with shrinking of the eyeball, which is a great disfigurement, and eventually enucleation must be practiced. When you get inflammation of the deeper structures of the eye, it usually goes on to what is called phthisis bulbi, which results in destruction of the eyeball, and, as already stated, enucleation must eventually be practiced. So recently in one of our cases Dr. Beery, our attending ophthalmologist, and the speaker decided to try injections of the anterior chamber and vitrious with serum according to the technic of Netter. It is too soon to really say anything on that, but the results are encouraging. Good results have been reported abroad especially by Netter in saving the eye if this is done early. In this case operative procedure was not instituted until forty-eight hours after the onset of the complication, but the process, nevertheless, seemed to have been completely arrested. There is no sign of shrinking. There is no sign that nucleation will have to be done. There is a possibility that with subsequent operation a certain amount of vision will be saved for this eye. I think it is important because when it affects both eyes, blindness results.

"Regarding intravenous serum injections: we have used them in all of our patients who have presented evidences of a blood infection judging from the presence of a rash and whose blood cultures have been positive for the meningococcus. It has as a rule only required one or two intravenous injections of 20 or 30 c. c. to get negative blood cultures. I do not doubt but that in more severe cases we might have had to use more and possibly more often, but they have not been the type of cases which we have had."

Dr. Henry M. Jackson, of Manhattan:

"These talks tonight on meningitis have been very interesting to me, especially so as I have done practically nothing else but meningitis work for the last seven years, five years of which were spent in civil life in New York City and two years in the Army both in this country and in France.

"Now, I think, as two of the speakers pointed out, there is a difference between meningitis as seen in civil life and that seen in the Army, both as to age and conditions.

"I myself consider meningitis in its beginning as a bacteremia rather than a septicemia, and I do not believe that in the great majority of cases the organism remains in the blood long enough to warrant us giving antimeningitis serum intravenously, unless it is a septic case, as shown by extra-meningeal symptoms and signs, such as an otitis media joint cases, or where there is a marked rash.

"Before going into the Army I had never used the serum intravenously. After entering the service I was stationed at Camp Dix and it became known that I had had a certain amount of experience in meningitis and I was asked to take charge of the meningitis cases there. I became very enthusiastic, over the new method of treatment by giving the serum intravenously, and used it at once.

"At Camp Dix we did not have the septic cases of meningitis that Dr. Herrick saw at Camp Jackson. Ours were the ordinary types seen in civil life. We did have three septic cases while I was there.

"I started off giving the serum both intravenously and intraspinally but soon noticed there was no particular advantage gained and that the cases didn't do any better than in civil life where the intrespinal methods alone was used, so I asked the medical chief if he objected to my starting a series of cases intravenously and intraspinally and treating others just intraspinally. He had no objection and I started this method of treatment. The only difference was that in those cases in which I gave it intravenously I got very bad reactions, and

I think I observed all the care possible in the administration of the serum. In one case I had to resort to artificial respiration as well as stimulants.

"Another thing about the intravenous injections is that the serum sickness and the rash that you usually get on the eighth or ninth day after the first injection is much more severe than that by giving intraspinal injections, although you do get serum sickness and rash occasionally by the intraspinal method.

"It should also be considered, (I do not know that it has been proven), the possible effect produced on the kidneys by the introduction of a large amount of a foreign proteid, into the circulation, as we do when a serum is given intravenously. It is something for us to bear in mind. It has not been proven, I think, as I say.

"Dr. Herrick speaks about the inequality of the reflexes, especially the deep reflexes of the two sides. During the poliomyelitis epidemic of 1916 that was one of the methods by which we differentiated between poliomyelitis and meningitis. Inequality of the reflexes usually indicated poliomyelitis, while equality of the reflexes usually meant meningitis.

"In Dr. Herrick's summary he quotes 208 cases, in only 13 of which he got
which is to be expected if the patient is right handed.
this inequality and as I remember it 12 out of the 13 were on the right side

"So in conclusion I would say that I have come back to civil life with this view—that in ordinary cases of meningitis I believe it is best to use the intraspinal method alone with moderately small doses of serum from 20 to 30 c. c. at 24-hour intervals, still if I got a case showing extra-meningeal symptoms and signs I would not hesitate to give it intravenously as well as intraspinally.

Dr. S. R. Blatteis:

"I was impressed recently with the statement in the literature and that of the speakers tonight so that we have added to our list of diseases another one in which we hold the conception that the origin is that of a bacteremia. It took some time for that conception to take hold with reference to typhoid fever. It took a longer time for that conception to take hold in the case of pneumonia, and so we have now added to the list meningococcus infections, characterized usually by meningeal symptoms, as being originally a bacteremia; and the reason it took a long time, in my opinion, is that where these investigations are first conducted (in hospitals) the cases come in so late that they are past the stage of the bacteremia, as in typhoid fever in the first week of your disease the percentage of cultures is so very high where the cultures are positive. In pneumonia the bacterium we find from experience must be there perhaps in the incubation period, and not very often, among usual observers, after the third or fourth day, which is about the time when these cases come to the hospital for treatment, and then only rarely do we get a positive culture.

"In meningococcic infections we find that blood cultures in hospital work give very few positive cultures because they come so late. Only in those overwhelming infections, where almost every tissue of the body takes part in the infection, do we get them, as in a case, for instance, where we got the organism from the sputum, got it from a puncture of the lung in an area of consolidation, got it in the pleural fluid, got it in the exudate of pneumonia and pleurisy, and we got it from a secretion from the eye, a purulent conjunctivitis of meningeal origin. This case was so severe that we got the organism in the blood in hospital work.

"The premeningitic stage of the ordinary cerebrospinal fever is certainly a revelation and one which has not been studied formerly and has not been so prominently held by the average practitioner."

Dr. George L. Buist:

"I was very much interested in hearing Dr. Herrick refer to the upper respiratory tract conditions which are present prior to the pneumonia, and also in these cases of meningitis, as for some time I have felt, along, no doubt, with a good many of the rest of you, that pneumonia in so many cases is more or less of a secondary proposition; and the practical point I have in mind to bring here tonight is that, in considering that in that light, when we dismiss our pneumonia cases we should not consider that we have terminated these cases, but should consider the possibility of a focal infection which may prevent them perhaps from having some other condition, which may not be pneumonia again, but some other condition from this focus."

Dr. Elias H. Bartley:

"There is one suggestion of Dr. Herrick's which attracted my attention, and that was that in all these cases there is an upper respiratory tract infection. That recalls to my mind an experience I had in a children's nursery some years ago (about 1904, when we had an epidemic here). One of the children was taken suddenly ill one morning about 9.00 o'clock. I was sent for and got there about 11.00. The child was dead. I suspected from the description given me child, sent it to the Health Department and the report came back that it was that it might have been meningitis, and made a lumbar puncture on the dead meningococcic meningitis. While I was at the nursery my attention was called to another child that began to vomit in the adjoining crib to the one occupied by the child which had died, (that child died about 9.00 o'clock the next morning). The nurse called my attention to the fact that all the children in the dormitory had a peculiar running at the nose. There was this irritation in the nose, with a discharge which they had not observed before except in the two or three days prior to this. I asked them to make an irrigation of the noses of all the chilren in the dormitory believing that there might be some connection between this and the fact that these cases had died suddenly. There were, by the way, three of these cases that died. One lasted, only a few hours, the second a little longer, and the third lasted for two or three days.

"After the treatment of irrigating the noses there were no other cases. Whether my irrigation of the nose with a mild antiseptic solution had anything to do in checking the epidemic or not, I do not know positively, but I believe that it had, and that this irritation, or infection of the upper air passages, was a part of a general infection throughout the nursery which in these three cases developed into a meningitis."

Dr. M. A. Rabinowitz:

"The diagnosis of meningococcic infection in infants is very difficult, and I am very glad to hear Dr. Neal mention the fact that the diagnosis can rarely be made early. A child was brought into my service from the mountains with a diagnosis of pneumonia. The intern on admitting the case corroborated the diagnosis of pneumonia because of the presence of same rales in the chest. I saw the child of 1 1-2 years a few hours later. It had a temperature of 105, was practically unconscious, with a marked purpuric rash all over the body, and slightly cyanotic—apparently moribund. There was nothing in the chest to account for its condition and I thought of the possibility of this child having a massive adrenal hemorrhage with the purpuric rash which is supposed to go with this condition. The child died and the father, being intelligent, consented to an autopsy. The autopsy was performed by Dr. Lederer and it disclosed the presence of massive bilaterial adrenal hemorrhage."

At this point in his remarks, the doctor went into a discussion of adrenal hemorrhages in children, their relation to meningococcic infection, touched on the question of blood cultures, post mortem findings, and spoke of the importance of purpura in its relation to adrenal hemorrhage, after which he went on to say—

"We had another case in the hospital. An infant was admitted with a temperature of 104 and a history of having been ill for five days. This was a nursing baby and there was no clue as to the source of infection. There was no rigidity, no spasticity, no change in the reflexes. On the fifth day of the illness the child was taken with generalized convulsions. This led us to suspect the presence of meningococcic infection. Spinal puncture proved unsuccessful, but ventricular fluid showed meningococci."

Dr. Max Lederer:

"I can testify to the effect of the intravenous administration of serum in the so-called septic type of case by relating an experience in a little boy who was admitted to the hospital about four hours after the onset of the disease. He was suddenly taken ill with fever and this very marked purpuric rash. About four hours later, he was, as I say, admitted to the hospital. He was in coma then, was practically pulseless, and couldn't be roused. He was limp: any position you would put him in he would stay in that position, like a bag of oats. A blood culture was taken and in twenty-four hours disclosed the presence of meningococci. A lumbar puncture showed the presence of meningococci. Antimeningococcic serum, both intravenously and intraspinally, was given at once. The next morning he was apparently well, the temperature had dropped, the pulse was good and the child was perfectly conscious and taking nourishment and made an uneventful recovery.

"Dr. Herrick's work in these cases is astounding, because one does get those results. There is absolutely no doubt about it that in that septic type of meningococcemia which probably fits the cases that I read about, but never saw, that they had back in 1904-1905, in that epidemic where children apparently dropped in the streets with this spotted fever, the results one gets with intravenous injections in those cases are remarkable."

Dr. Joseph Samenfeld:

"I would like to ask Dr. Neal whether she recognizes hemorrhagic meningitis as a clinical entity. Many authorities claims that there is no such thing but that it is due to poor technic in obtaining the fluid.

"I realize this is a little away from the subject in hand but I would like to hear what Dr. Neal has to say on the subject."

Dr. Josephine B. Neal:

"In regard to the question of menigeal hemorrhage I would say that I have seen meningeal hemorrhage, that is I have gotten a fluid that was bloody and uniformly so in successive tubes in the course of several cases of meningitis due to the meningococcus. The cases that I referred to in the first part of my paper were not, however, of that type. They were cases that developed seemingly spontaneously, and in most instances I have not been able to find a reason back of it. In two cases it was due to nephritis. In the other cases, however, I have been entirely unable to find the cause of the meningeal hemorrhage, and those fluids have been negative bacteriologically on culture, so I have not considered them as a hemorrhagic meningitis, but rather as a meningeal hemorrhage.

"It seems to me that the term hemorrhagic meningitis is rather vague except as applied to "pacehymeningitis interna hemorrhagica, and a diagnosis of this last condition is conclusively established only on autopsy findings."

Dr. W. W. Herrick:

"There is just one thing I shall say, although there are really a hundred that I have in mind.

"All of us are seeing cases of acute polyarthritis, acute tonsillitis, of 'influenza' with purpura that we are calling purpura hemorrhagica, purpura fulminans, arthritic purpura, Henoch's purpura etc., many of which may be meningococcic infections. I have seen these conditions absolutely simulated by meningococcic infections and every child that is stricken acutely by a hemorrhagic rash deserves the lively suspicion of meningococcemia. I might go even further and say that if the toxemia is great in the presence of a rapidly-developing hemorrhagic rash, that child is entitled not only to lumbar puncture, but, first of all, to intravenous serum treatment. The alien protein may have a non-specific effect in some other type of infection, but such a picture means, in my mind, a meningococcemia, and in such cases you must move and move fast. It is quite as much a medical emergency as appendicitis is a surgical emergency: every hour counts. We have seen boys coming into the military hospitals die in five or six hours from an overwhelming infection of this type. We have seen the same boys when we had our system going receiving tremendous amounts of serum in the first twenty-four or forty-eight hours and make a prompt and complete recovery. I want to urge every general practitioner who sees these cases with a rapidly-developing hemorrhagic rash to keep this in mind and not delay.

"Many of our cases or necropsy showed adrenal hemorrhage. Especially was this true in the cases with purpura or large subcutaneous petechial spots.

"We practitioners should perhaps get out of the text-book and even the laboratory and broaden our conception of the acute infections realizing that one does not have to wait for the terminal, or secondary, or even the post mortem findings before making a diagnosis. It is necessary and important to recognize the earlier stages the stage of incubation, and to apply our specific method of treatment in pneumonia and meningococcic infection early. We know that in Type One pneumonia if we can give large amounts of serum intravenously in the first forty-eight hours of the onset of the disease when only temperature, leucocytosis and rusty sputum and make the diagnosis we can often influence the infection markedly with a single dose of 100 c. c. of serum intravenously when a delayed serum administration is much less effective. The same thing applies to the treatment of the meningococcemias. I think it is of the utmost importance for the general practitioner to keep the conception of the possibility of an early blood stream infection in mind and to remember that meningococcemia does not always mean meningitis. Probably it does in nine times out of ten, but it is the one time in the ten that may count."

Medical Book News

BOOK REVIEW SUPPLEMENT TO THE *LONG ISLAND MEDICAL JOURNAL*

Edited by JAMES M. WINFIELD, M.D.

All communications, books for review, etc., should be addressed to the Editor of this Department, 1313 Bedford Ave., Brooklyn, New York

1920, No. 4 MAY, 1920 3 PAGES

THE NUTRITION OF THE FETUS.

THE NUTRITION OF THE FETUS. By J. Morris Slemons. New Haven, Yale University Press, 1919. 49 pages. 12mo. Cloth, 75 cents.

The author very properly states at the outset of his very instructive little brochure that "pregnancy is essentially a problem in nutrition."

Does the material provided for the growth of the ovum come from the mother's tissues or from her food? It is a well established fact that, unless there be some intercurrent reason, a pregnant mother always gains in weight and there are facts to support the view, that "her tissues are not deprived of material to supply the new organism." Furthermore there is ample proof that the food stuffs for mother and fetus are identical—"both use the same organic and inorganic substances which are always available in the circulating blood of the mother.

The placenta, composed partly of a specialized uterine tissue but mainly of elements derived from the chorion frondosum, is the filtering plant through which the food is carried to and the excretory products carried away from the fetus. The way in which substances pass through the placental partition is still an unanswered question. There are two theories: 1. The Vitalistic Hypothesis which holds that the placenta actually digests the food products furnished it by the mother's blood in turn supplying nutriment to the fetus through its circulation. 2. The Mechanistic Hypothesis which holds that the placental wall is a passive, semipermeable membrane conforming with the laws of osmosis and diffusion e. g. substances pass directly through the placental wall into the fetal circulation by the process of osmosis and diffusion.

The author and his collaborators have several tables showing the results of their numerous experiments on tissue metabolism. These show very conclusively that the mechanism by which the nutrition of the fetus is carried on is a very complex one and in the final analysis there are two main factors involved, first "the peculiar activity of its own organs" and secondly, the "supply of food it receives." Regarding the first we must reason by analogy for the isolation of the fetus still remains an unsolved problem and therefore no exact observations can be made. The second factor regarding the nutrition of the fetus—its food supply—can be studied in a practical way. For example, there is no diet specifically adapted to the pregnant state. A prospective mother may choose her own diet so long as she can digest and assimilate it properly. Quantity of food plays no role as regards the size of the child. The quality of food is more important than quantity. The physician is entirely responsible for the successful termination of a given pregnancy and the mother should not be allowed to starve herself in order that the child may be small and therefore easy of delivery.

HARVEY B. MATTHEWS.

SPEECH TRAINING FOR CHILDREN.

SPEECH TRAINING FOR CHILDREN; THE HYGIENE OF SPEECH. By Margaret Gray Blanton and Smiley Blanton, B. S., M. D. New York, The Century Company, 1919. 261 pages. 12mo

It is very gratifying to note the appearance of several books in the past few months on the long neglected subject of speech training in children.

This particular publication deals quite as much with the developing of a proper method of speaking as with the correction of faults and improper methods after they have been acquired.

Inasmuch as prevention is the modern watchword in dealing with the child, it is just as logical to apply it to the training of the speech as to that of the diet and general hygiene.

There are two parts of which the first is devoted to speech training, mechanisms of speech, co-ordinations, the plastic period, the developing speech needs, unhealthy types of speech reaction, and extra-school activities.

The second part has three chapters on the beginning of school life, the speech class, and most important of all, a program of exercises with instructions for giving them.

This extremely fascinating field of endeavor has only been scratched, and the more material published the better our chances for really tangible results in bringing up a race of children who not only are free from mechanical defects of speech, but also from errors of grammar, inflection, and good taste.

W. H. DONNELLY.

MANUAL OF OBSTETRICS.

MANUAL OF OBSTETRICS. By Edward P. Davis, A. M., M. D., F. A. C. S. Second Edition, revised. Philadelphia & London, W. B. Saunders Company, 1919. 478 pages. Illustrated. 12mo. Cloth, $3.00.

The general scheme of this manual follows most of the similar books, and doesn't vary from them much in the traditions that are carried down from text-book to text-book, from generation to generation. The nomenclature of positions: "first," "second," etc. are not so visualizing as the more common descriptive names in combination with presentation as "left occipito-anterior," etc.

Eclampsia, presumably because of lack of space is discussed tersely, giving little attention to the methods not used by the author, and this attitude shows itself frequently throughout the whole work, and is probably intentional, as it is intended for a book for Prof. Davis' own students.

In spite of the frequent academic statements in the book that the generative tract will take care of itself against infection if left alone, time after time indications are given for intra-uterine manipulations, packs and irrigations, antiquated and dangerous procedures.

As usual, in most text-books, the treatment of the most common cause of dystocia-occiput posterior with retraction ring, is given little attention, and that is faulty.

The book is quite probably a valuable one for the students at the author's school, but will hardly find a large field of usefulness elsewhere.

E. B.

DISEASES OF THE NERVOUS SYSTEM.

DISEASES OF THE NERVOUS SYSTEM. A Text-Book of Neurology and Psychiatry. By Smith Ely Jelliffe, M. D., Ph. D. and William A. White, M. D. Third Edition. Philadelphia & New York, Lea and Febiger, 1919. 1018 pages. Illustrated. 8vo. Cloth $8.00.

This well known work needs no introduction to the medical profession as it is a standard volume. Much new material has been added in the fields of vegetative neurology and of the endocrinopathies. In the third part the subject matter on the psychoses has been added to along the lines of interpretation with emphasis on the mechanisms involved.

The book is well written and arranged and is the best work at present available in English on this subject. Foreign authors are liberally quoted. The references are numerous.

TREATMENT OF SYPHILIS.

THE TREATMENT OF SYPHILIS. By H. Sheridan Baketel, A. M., M. D. New York, The Macmillan Company, 1920. 167 pages. Plates. 8vo. Cloth, $2.50.

This work is, as the preface implies, essentially a treatise upon the administration of arsphenamine and neoarsphenamin, and not as the title indicates a full discussion of the treatment of syphilis, for there are many things regarding the care of this disease that are not mentioned in the volume. Still this work of Dr. Baketel is timely, for as the Author states in the preface the modern "treatment of syphilis is dependent to a very great extent on the administration" of the new arsenical compounds. This work will be of great help to any one who is not familiar with the Wassermann and Lange tests, and the technic of arsphenamine administration. The Author has had a large experience in running down the causes of the untoward effects of these new drugs and thus speaks with authority, consequently it would be beneficial for any one unfamiliar with the newer methods of treating lues to consult this book before considering himself qualified to treat this disease.

PHYSICAL RECONSTRUCTION AND ORTHOPEDICS.

PHYSICAL RECONSTRUCTION AND ORTHOPEDICS. By Harry Eaton Stewart, M. D. New York, Paul B. Hoeber, 1920. 8 vo. Cloth. 275 pages, 64 illustrations. Cloth, $3.75.

The author presents this manual as a condensed outline of the main principles of orthopedics in the treatment of the defects of childhood, war industries, and industrial accidents, laying stress upon treatment by massage, exercise and other types of physiotherapy. He writes, first, for the physician, but also for reconstruction aids, physical directors and orthopedic assistants. It is divided into two parts; a shorter general presentation of physical reconstruction, and a more detailed classification of orthopedic conditions, their causes, symptoms and treatment. In the first part there is a chapter on exercise, emphasizing its importance in youth and yet pointing out the necessity of safeguarding the athletics of boys and girls. This chapter distinguishes the types of exercises for varying ages. The second and third chapters on baking, hydrotherapy, electrotherapy and massage are similar to what is found in recent works on these subjects. Vocational therapy details much of the author's personal valuable experience and is a real addition to this subject.

Although the second part on orthopedics presents the various divisions expected from the title, the point of view is much influenced by Army work. However, congenial defects, infantile paralysis, disease of the spine and spinal curvature mirror the author's previous and subsequent experience in civil life. An excellent chapter on braces and casts collects many of the advances in the use of mechanical appliances which Army practice has taught.

To the orthopedic surgeon no subject seems quite fully treated; to the physician not a specialist there is much valuable meat; to the physical director and the various aids in reconstruction work the classification outlined and treatment would seem to fill a need. For those not trained in Medicine a glossary at the end should prove a valuable aid in explaining the use of technical terms. There is a full index. The many illustrations are largely photographs, charts and x-ray prints taken from Army experience.

WALTER TRUSLOW.

PRACTICAL ORGANOTHERAPY.

PRACTICAL ORGANOTHERAPY. The Internal Secretions in General Practice. By Henry R. Harrower, M. D., F. R. S. M. (Lond.). Glendale, Cal., The Harrower Laboratory, 1920. 268 pages. 12mo. Cloth, $2.50.

This is an ambitious little book in which an optimistic author attempts to crowd into 268 pages a resume of all the present knowledge on endocrinology and organotherapy. He succeeds in presenting his views on the subject in a very readable and interesting manner, but with no attempt at any scientific accuracy. The book abounds with many statements which have not as yet been proven, either experimentally or clinically, and accordingly many claims are made and advanced for the employ of organotherapeutic agents which even enthusiasts on the subject would be slow to accept.

All in all, the book must be accepted as a commercial publication in the same light as Merck's Index. Considering it from that viewpoint, the general practitioner will find many helpful hints and suggestions on a very interesting and timely subject.

M. B. G.

THERAPEUTICS OF THE RESPIRATORY ORGANS

THERAPEUTICS OF THE RESPIRATORY ORGANS. By Francis Cartier, M. D. Translated from the French and edited by Carl A. Williams, M. D. Philadelphia, Boericke & Tafel, 1919. 302 pages. 12mo. $2.25 plus 10 cents postage.

Dr. Williams in this work presents a translation from the French of Dr. Cartier of a very excellent resume of the remedies and the indications for their application to the treatment of respiratory diseases based upon the principles of Homoeopathy. The work is couched in rather a conversational style as the translator says and that style proves very readable and adds materially to the interest and value of the work. The reader will find the chief indications for the use of the principal remedies grouped under each disease considered. The facts are concisely stated and the work is comprehensive.

BOOKS RECEIVED.

Books received for review are acknowledged promptly in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases review notices will be promptly published shortly after acknowledgment of receipt has been made in this column.

REGIONAL ANESTHESIA (Victor Pauchet's Technique). By B. Sherwood-Dunn, M. D. Philadelphia, F. A. Davis Company, 1920. 294 pages. 224 figures in the text. 8vo. Cloth, $3.50.

PRINCIPLES AND PRACTICE OF INFANT FEEDING. By Julius H. Hess, M. D. Second Revised Edition. Philadelphia, F. A. Davis Company, 1919 343 pages. Illustrated. 12mo. Cloth, $2.50.

A LABORATORY MANUAL OF PHYSIOLOGICAL CHEMISTRY. By Elbert W. Rockwood, M. D., Ph. D. Fourth Edition, revised and enlarged. Philadelphia, F. A. Davis Company, 1919. 316 pages. 12mo. Cloth, $2.00.

DISEASES OF WOMEN, INCLUDING ABNORMALITIES OF PREGNANCY, LABOR, AND PUERPERIUM. A Clinical Study of Pathological Conditions Characteristic of the Five Periods of Woman's Life. Presented in One Hundred and Seventy-three case Histories. (Second Edition.) By Charles M. Green, A. B., M. D. Boston, W. M. Leonard, 1920. 466 pages & Index. Plates. 8vo.

A CONCISE HISTORY OF MEDICINE. By Sir William Osler, M. D., F. R. S. Published by permission of the Encyclopedia Americana Publishing Co. Baltimore, The Medical Standard Book Co., 1919. 66 pages. 16mo. Cloth, 85 cents.

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SCIENTIFIC PROGRAM OF THE ANNUAL MEETING OF THE ASSOCIATED PHYSICIANS OF LONG ISLAND

A Clinical Meeting at the Methodist Episcopal Hospital

Brooklyn—New York—January 31, 1920

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STUDY OF A CASE OF LATERAL SINUS THROMBOSIS

Purdy H. Sturges, M. D.

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Lateral sinus thrombosis usually is secondary to an acute mastoiditis, or it is an acute exacerbation of a chronic mastoiditis, but may be due to an acute or chronic middle ear suppuration without mastoid involvement.

The usual indications for exploring the lateral sinus, taken in connection with middle ear suppuration are: 1. Fever. 2. Chills, sweating, nausea and vomiting. 3. Other pyemic symptoms. 4. Positive findings on aspiration of the sinus. 5. Edema over posterior portion of mastoid region, and tenderness on percussion over the sinus. 6. Cord-like feeling of the jugular vein. 8. Artificial pupillitis. 9. Blood examination showing a high leucocyte count. 10. X-ray findings. The temperature has wide fluctuations. The chills, nausea, sweating and vomiting may or may not all be present in a given case; other pyemic conditions may be present—joint inflammations, septic edocarditis, multiple abscesses in various parts of the body, etc.

The exposed sinus wall may show marked changes; in some cases none.

Aspiration of the sinus may aid in a positive diagnosis.

The edema over the mastoid, cord-like feeling of the jugular vein, and pupillitis may or may not be present. A high leucocyte count is the rule in these cases. The x-ray findings may be of value in some cases.

There are practically no contraindications for operation in these cases, when the hopelessness of the condition is taken into account. The consensus of opinion is to ligate the internal jugular in all cases of lateral sinus thrombosis. Excision of part of the jugular vein may or may not be indicated, depending upon the site and extent of the clot.

I have gone over in a hurried way the most usual symptoms of lateral sinus thrombosis in order to aid in the earlier diagnosis of this condition.

The case we present is a young girl, aged 6, from the wards of the Methodist Episcopal Hospital. She was admitted to the hospital June 29, 1919 in the service of Dr. Graham. From the hospital record her chief complaint on admission was "Distress in the abdomen and vomiting."

A week before admission she had had an acute tonsillitis, and a left middle ear abscess. Both of these conditions had rapidly subsided.

The patient on admission had a general feeling of discomfort in the lower abdomen, and slight tenderness in the right lower quadrant. Her temperature on admission was 102.6 F., pulse 140, and respirations 20. The blood count showed a leucocytosis of 21,450, with 87 per cent. polynuclears. By looking at the temperature chart you will see the course of the curve up to and including July 7. For two days after entering the hospital the patient had several vomiting attacks and occasional abdominal pain. Colonic irrigations were given at intervals.

July 2d: The patient called attention to her ears, saying she had pain in her ear "when the boys shout."

July 3d: Patient had chilly sensations. Dr. Graham found some tenderness back of the right ear.

July 4th: Examination by Dr. Stone and myself showed no mastoid tenderness or edema. The ear drum looked more nearly normal than usual so soon after an acute mid-ear suppuration. There was no perforation and only slight, if any, sagging of the posterior-superior canal wall. An X-ray examination was ordered.

July 5th: The pain in the ear was increased. The X-ray report by Dr. Wallace showed the left mastoid normal; the right mastoid had a soft appearance almost to the tip.

The diagnosis of mastoiditis was made.

A mastoid operation was performed at 3:30 p. m., of July 5th, a complete excentration of all cells which were markedly hyperemic, but not broken down being carried out. The lateral sinus was uncovered from the bend to the bulb. There was no necrosis of the overlying bone, and no perisinus abscess or granulations. The sinus wall was dull and showed no pulsation. After applying iodine to the snus wall, a few drops of blood were removed from the sinus with the hypodermic. A culture was also made from the mastoid antrum. This culture proved to be negative as regards sinus hemolytic streptococci.

Two days later, July 7th, the internal jugular was ligated low down, the facial vein tied off, and about three inches of the jugular removed. No clot was found. The wound was sutured and a cigarette drain inserted.

Dr. Taylor's Discussion of Dr. Sturges's Case

Dr. John M. Taylor: I merely wish to demonstrate the temperature chart which shows the characteristic temperature curve in a case supposed to be due to thrombosis in any part of the body, and in this case called attention to the possibility of thrombosis in the ear affected.

We have here a rough drawing which serves to call attention to the anatomical relations of these parts. Dr. Sturges operated and we found the clot extending nearly back to the torcular Herophili and overlying the bone. The internal jugular and facial veins were tied and part of the internal jugular removed.

In this condition it is important that the diagnosis be made early because it is important to operate before the clot extends along the internal petrosal sinus and affects the cavernous sinus, in which place a clot cannot be removed.

We have here a dissection showing the lateral sinus and mastoid. This was done two or three weeks ago and is no longer in perfect condition.

RENAL AND URETERAL CALCULI

A report of cases, with remarks on the operative treatment.

Arthur H. Bogart, M. D., F. A. C. S.

Brooklyn, New York.

IT IS NOT possible to say much on any subject in the space of time which has been alloted to me. However with your permission I shall report briefly a few cases of stone in the kidney, ureter, or pelvis of the kidney which have recently come under my care, and conclude with a few remarks on the operative treatment of these cases.

Within the last three years I have had occasion to see ten and to operate seven cases of stone located either in the ureter, the kidney, or in the pelvis of the kidney.

In one case no operation was done because of the fact that the patient, a female, was about six months pregnant and it was thought best to carry her over until she could be delivered. With rest in bed, large quantities of water and sufficient anodynes to relieve the pain she was temporarily relieved and sent home with instructions to report after her confinement for further treatment if necessary. The X-ray in this case showed a small stone in the pelvis of the left kidney. It would seem that this is the wisest plan to adopt in such cases whenever possible, as any attempt at operation in the presence of an advanced pregnancy might be attended with unfavorable results.

Of the other nine cases, in four the stone was located in the pelvis of the kidney in one in the kidney structure itself, and four in the ureter. In one case in which the stone was found in the kidney the condition was further complicated by the development of a cystic degeneration of the lower pole of the kidney.

All of the operated cases made a complete recovery and have remained well up to the present time, except one, in which symptoms have recurred and X-Ray shows three small stones in the pelvis of her right kidney, about three years after operation.

Case No. 1. C. H. age, 36, Married, Iron worker, Admitted June 6th, '19. Chief complaint pain in the right side in the region of the kidney.

Past history:—When patient was twelve years old he suffered from an attack of pain in the region of the right kidney, and since then up to the present he has had similar attacks from time to time. He described that pain as sharp and stabbing in character and always located in the right lumbar region just below the ribs. The pain did not radiate in any direction and there was never any disturbance of the urinary function. The pain was always worse at night and he thought relieved by exertion.

Physical examination showed a point of tenderness over the right kidney otherwise negative.

Cystoscopy by Dr. Langworthy showed a mild cystitis, a catheter was passed to the right kidney pelvis but no urine obtained, a filiform was then passed which was followed by a quantity of flaky material. The catheter passed to the left kidney with out difficulty and phthaline appeared on that side in ten minutes. Renal efficiency 28 in the first hour and 13 in the second hour a total of 41% in two hours. X-ray showed a calculus in the pelvis of the right kidney. Operation June 20th, '19. Under ether anaesthesia the usual lumbar incision was made and the kidney exposed, it was found to be enlarged and cystic. A moderate sized stone was removed from the pelvis and the cystic portion which consisted largely of the lower pole was excised and a reconstruction done upon the remainder; the wound was closed with drainage.

This patient made a smooth recovery and was discharged at the end of two weeks and has since remained well.

Case No. 2. W. B. male, married, Admitted November 6th, 1913.

Chief complaint—Pain over the right kidney occurring about once each month for the past year.

Past history, Patient has always been well except for present illness. Family history negative.

For the past year patient has suffered from repeated attacks of pain in the region of the right kidney, the pain is described as sharp and cutting in character and without radiation in any direction. There is no frequency of urination, and no blood in the urine. Never has had any temperature.

Urine examination showed a slight trace of albumin and a few white blood cells, otherwise negative.

X-ray showed a stone in the pelvis of the kidney in this case. Operation November 7th, '13. Through the usual incision the kidney was exposed and the stone located in the pelvis of the kidney, the pelvis was incised, and the stone removed. A drain was inserted and left in place for four days after which it was removed. There was slight leakage of urine for about one week when it ceased and patient went on to a rapid recovery, being discharged at the end of two weeks. He has remained well since.

Case No. 3. L. M. female, age 42, Housewife, Admitted April 4th, '17.

Chief complaint—Pain in the left lumbar region radiating to the left axilla and to the left hypochondrium. This pain occurs in paroxysms and is very sharp in character.

The history in this case dates back eight years ago at which time she suffered her first attack of pain which lasted only a short time but recurred at irregular intervals for one year. There was no blood or pus in the urine at this time nor was any frequency of urination noted. At the end of a year she passed a small stone and was relieved from all symptoms for a period of three years, when the attacks began to recur exactly similar to those in the beginning. There was never any blood or pus in the urine.

Cystoscopic examination by Dr. Langworthy in this case showed a normal bladder; the left ureter opening was slightly inflamed, right ureter normal and the uretral catheter passed to the pelvis of the kidney in both sides.

The X ray examination showed a stone in the pelvis of the left kidney, which was removed through a lumbar incision. This patient made an uninterrupted recovery and was discharged at the end of about two weeks.

After her return home she suffered from an attack of pyelitis in the right kidney and was treated for this by her family Doctor, and made a rapid recovery. She was heard from some three years later through her physician, Dr. Cornelius, who reported her in excellent health.

Case No. 4.—F. M. Male, 45 years, Married, Fireman.

Chief complaint, pain in the left lumbar region for the past year.

Present illness dates from the time when he had an attack of pneumonia one year ago when he first suffered from severe pain in the back, and left hip radiating down to the groin on the affected side. Patient has had repeated attacks during the past year gradually increasing in frequency and severity. With each attack he has difficulty in passing urine. Last attack one week before admission more severe than any previous ones. Physical examination negative except for a tender spot over the left kidney and also in the abdomen over the line of the ureter.

X-ray in this case showed a calculus in the lower end of the left ureter near the bladder.

Renal efficiency total of 25% in two hours, Urine cloudy 1027 and contained a few red blood cells.

Cystoscopic examination by Dr. Langworthy, Bladder shows engorgement of middle lobe of the prostate, Ureteral openings normal, clear urine obtained from the right kidney, very little from the left. Specimen from the right kidney normal, Ureteral catheter passes 9 C. M. into the left ureter where it meets obstruction.

Diagnosis ureteral calculus.

Operation, November 25th, 1918. Right rectus incision about four inches long was made, the ureter exposed and the stone located about one inch from the bladder, it was grasped between two fingers and the stone liberated by an incision, the peritoneum over the incision was closed with a No. 1 chromic suture, and a cigarette drain inserted down to it. The abdominal wound closed.

There was no leakage of urine in this case and patient made an uninterrupted recovery being discharged at the end of two weeks.

Case No. 5, F. W. age 32, Married, Actress.

Chief complaint. Pain in the region of the right kidney extending downwards and forward in the direction of the ureter.

Five years ago this patient was operated upon by us for an appendix and a right salpingitis, both the tube and appendix at that time was found diseased and were removed, at that time there was no history suggestive of calculi. Otherwise the previous history is negative.

Present trouble began one and a half years ago with pain in the right kidney radiating down the course of the ureter, these attacks occurred every five or six weeks and were accompanied and followed by frequency of urination, during the attacks she has noticed that the urine is cloudy and contains a sediment. X-ray in this case showed a renal calculus located in the pelvis of the right kidney.

Urine examination, on admission showed it to be straw colored alkaline in reaction and a specific gravity of 1007. Otherwise negative.

Operation September 8th, '17. Through a curved incision from the lower border of the ribs downward and forward the kidney was exposed and the stone located in the pelvis and removed. A cigarette drain was inserted in this case without any attempt to close the wound in the pelvis of the kidney. There was some leakage of urine in this case for about one week when it ceased and patient went on to a complete recovery, and has remained well.

Case No. 6. D. S. Age 46. Female.

Chief complaint, pain, tenderness, in right upper quadrant of abdomen, nausea, vomiting, fever and repeated chills. With the exception of an attack similar to the present about five years ago, the previous history is unimportant.

Present illness.—Began three weeks before admission to the hospital, with a sharp attack of pain in the back, and right side of the abdomen, followed by nausea, fever and chills. Within the last few days the pain has been most marked in the upper right side of the abdomen, but pain is not a marked feature at the present time.

Examination.—Patient's general condition is only fairly good.

The abdomen is moderately distended, and tender over the region of the gall-bladder where there is some resistance.

There are no palpable masses to be felt.

The urine output in this was very small, and the renal efficiency test showed only a total of seventeen per cent. Blood count, 20, to thirty thousand, urine examination showed a few pus cells.

It was evident this patient was suffering from some surgical condition, but the diagnosis although pointing to an acute cholecystitis, was not clear, and because of her poor general condition, it was thought best to wait in her case.

Patient objected seriously to vaginal examination, and positively declined to submit to cystoscopic examination. An X-Ray was made however which showed a medium sized stone in the ureter about two inches below the pelvis of the kidney, evidently completely blocking the ureter at that point and being the cause of a pyelitis, which was responsible for her fever and chills.

Under appropriate treatment all symptoms have subsided, the renal efficiency improved, and the output of urine increased. Under these circumstances if the patient would consent it would be proper to remove this stone, as it will undoubtedly continue to be a constant source of trouble.

Up to the present writing however patient will not consent to cystoscopy, or operation.

Case No. 7. Renal calculus, operation, recurrence.

M. L. Female, age 48 years, housewife.

This patient was operated upon about two years ago for the removal of a uterine fibroid, and with this exception has enjoyed good health until the onset of her present trouble which began two months before admission to the hospital. At that time she began to complain of pain dull in character in the right lumbar region, frequent urination, and occasional hematuria. About one month after the onset of her symptoms, she had a severe attack of pain in the right side which radiated down to the groin. This sharp attack lasted about six hours and was followed by the passage of several small stones, which gave her relief for a time. The pain in the back soon recurred however and was more or less constant.

X-Ray in this case showed a large stone in the pelvis of the right kidney. This stone was removed through a lumbar incision, and patient remained free from symptoms for about three years, at the end of which time she returned, again complaining of pain in the lumbar region of the right side. X-Ray at this time showed three small stones in the pelvis of the kidney, and also that the kidney was much smaller than that of the left side, the latter evidently having taken up the work of the right kidney to a great extent.

If it is found that the left kidney is competent to do the work of both, the right kidney will probably be removed with the stones at some later date.

In the diagnosis of these cases of course there is much room for error and unless we are careful to avail ourselves of all the modern methods at our disposal many cases of stone will go unrecognized as such and not infrequently be operated for other conditions. Perhaps the most common mistake which is made is that of removing the appendix or uterine adnexa for supposed chronic disease. In fact I have seen a few such cases and doubtless have fallen into the same error myself only to have some one else discover and remove the real cause of the trouble.

In fact the diagnosis of these conditions belongs largely to the roentgenologist and the cystoscopist and we should not hesitate to ask for their assistance in diagnosis in all suspected cases. A physical examination and urinary examination is but one step and should be followed by the X-ray and cystoscopic examination otherwise many of these cases will in the future as in the past be overlooked.

As to the methods of operating, that will depend of course very largely upon the location of the stone and the type of patient with which we are dealing. In those cases in which the stone is found to be located high in the ureter or in the pelvis of the kidney or in the kidney itself the lumbar incision is most useful and usually employed. In the cases however in which the stone is found low down particularly in thin subjects I think the abdominal route is to be preferred, as any one who is familiar with abdominal surgery will find very little difficulty in removing them by that route. Moreover it has the advantages of nothing more than the usual abdominal incision, and the dangers from infection are very small.

In the cases in which the stone was found in the pelvis of the kidney they were removed through the usual lumbar incision. In one case it was found necessary to mobilize the twelfth rib in order to obtain better exposure. In doing this the pleura was opened slightly but was followed by no serious results and the patient went on to a satisfactory recovery. In all these cases a cigarette drain was used, and no attempt made to repair the incision in the pelvis of the kidney. There was some discharge of urine for about one week when it ceased and the drains were removed and the wounds allowed to close which occurred in about two weeks from the time of operation.

In the cases four in all in which the stone was located in the ureter two were in females and two in males in all of them the stone was located about two inches above the bladder. The patients were thin subjects and the abdominal route was chosen in all of them.

In all cases the rectus incision was employed and made sufficiently long to give good exposure. Through this incision there was no difficulty in locating the stone in the ureter, which was grasped between the finger and thumb of my assistant and a longitudinal incision made in the ureter and the stone removed, no attempt was made in either case to suture the ureter. A fine chromic suture was used to close the incision in the peritoneum over the ureter and the usual cigarette drain insertion down to, the wound. In all cases the urinary drainage was so slight as hardly to be detected, and the drains were removed after about five days, which was followed by rapid healing of the abdominal wound.

I have had no experience with the lumbar incision except in cases in which the stone was located high up. I have been impressed with the danger of infection which might follow in the extensive wound necessary to remove stones from the lower ureter by this route.

Leakage of urine following these operations on the ureter has not been a serious complication in our experience. In one case at the suggestion of Dr. Langworthy we left the uretral catheter in situ after the operation in the hope of preventing leakage. In this case very little occurred and in the next case the catheter was not left in and with the same result, so that we have become quite satisfied with the simple introduction of a cigarette drain down to the wound which readily takes care of all discharge.

The principal thing to consider in these cases is an accurate diagnosis. The operative removal of these stones in any part of the tract is not in our experience attended with any great difficulties.

STONE IN THE KIDNEY. METHODS OF STUDY

By Drs. Arthur H. Bogart and Howard T. Langworthy

Discussion.

Dr. Langworthy: In speaking of surgical cases it is customary to speak of them from the pre-operative, operative and post-operative standpoints, and that applies also to kidney work. No method of examination should be omitted before the patient is submitted to operation. It is true that kidney and bladder stones will show in the x-ray but that is not sufficient for one must know the condition of the other kidney and the exact location of the stone and also the condition of the kidney on the side on which the stone appears. Here is a plate showing the condition in a case in which the wax-tipped catheter was not passed. Here are also plates showing a case of Dr. Spence's in which the stone was located about four c. c. below the pelvis of the kidney and was removed by a lumbar incision.

(A number of x-ray plates were exhibited showing the advantage of supplementing the x-ray examination by an examination with the wax-tipped catheter introduced into the ureter.) One of these was a series of x-ray plates of a man who had had ureteral stones for twelve years. Each time after an attack he passed sufficient blood in the urine to be seen by the patient himself. The picture with the x-ray catheter in place shows the stone at the tip of the catheter. In making the diagnosis one has to differentiate every shadow to determine whether the phlebolith is in the ureter or outside of it and to do this we must employ the wax-tipped x-ray catheter.

Here is the plate of a man who had his first renal attack this year and the examination of the urine showed nothing pathological. On January 8 it was found that the urine contained pus and red blood cells. A catheter was passed which stopped at this point. There is a faint shadow and the catheter is distinctly bent toward the spinal column and the wax tip showed a very definite scratch. In making these examinations the entire genitourinary tract should be covered by the x-ray examination, and no other aids to diagnosis, as the use of the wax-tipped catheter and tests of kidney function, should be omitted.

THE PROBLEM OF THE TREATMENT OF DISEASED CARTILAGE

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The treatment of diseased cartilage has been a rather unsatisfactory procedure and almost every surgeon, I think, must have had the experience of operating for necrosis of cartilage and, after an apparent success, has been compelled to explore a second time or perhaps a number of times because new portions of cartilage became diseased in the same way as the first. These troublesome cases have most often been observed when the costal cartilages were the ones involved.

Moschcowitz made a very satisfactory review and presentation of the subject before the American Surgical Association in 1918, when he arrived at some very definite conclusions. He says:

"Cartilage exposed in an infected wound does not heal, and practically always forms a sinus."

"A relapse is almost certain to occur, even if a portion of the diseased cartilage has been excised, apparently well beyond the infected area."

"If the conditions are favorable, i. e., in the presence of none, or only very slight infection, the operating surgeon may take the risk and close the wound entirely under no circumstances should a wound of this sort be drained, and least of all with gauze."

"The most certain procedure is to remove the offending cartilages throughout their entire extent, so that not even a trace of the exposed cartilage is visible in the wound. If any portion of the sixth, seventh, eighth, ninth or tenth costal cartilages is diseased, it is necessary to remove all these cartilages in toto, in order to bring about healing."

His supposition is that, when a number of operations have been done in order to effect a cure, the last attempt was successful because all the cartilage was removed, that the previous operations failed because some portion of the healthy cartilage was left in place and not because diseased areas remained behind. He thinks that usually the disease attacked normal but exposed cartilage after each unsuccessful operation.

At the time that Moschcowitz was preparing his paper he was serving at the same Base Hospital where I was stationed and advised me in the treatment of a case of infected costal cartilage then under my care. I had removed the seventh cartilage and did not succeed in getting complete healing of the wound. A second operation disclosed superficial necrosis of the eighth cartilage. I determined to make one more trial before resorting to complete removal of all the connecting cartilages. The eighth cartilage was then removed, the wound was left wide open and treatment by means of Dakin solution was begun. The exposed areas of cartilage were soon covered and the wound gradually healed by granulation until complete closure resulted. This procedure avoided the necessity of resorting to a major operation which is likely to be attended by profound shock, although the lesion itself seemed quite insignificant.

While the result of this one case does not by any means disprove the deductions that have been quoted it does point to the possibility of a successful method of treatment with a much less extensive operation than that which is so strongly advocated. Of course the treatment of diseased cartilage with Dakin solution must have further trial to prove its merits, but at any rate its adoption would seem to be justifiable in the case of any patient whose general condition might contra-indicate an operation which is so likely to be followed by shock. Even if complete healing is not obtained the cleaning up of a septic wound would doubtless put the weakened patient in better trim for operation.

At the present time I have under my care a second patient upon whom I am trying this method. Two years ago an abscess in the region of the lower right costal cartilages was incised. The wound did not heal and one year later it was reopened and some diseased cartilage was removed with no better result than the first operation gave. The patient was admitted to the Methodist Hospital about four weeks ago and the eighth and ninth costal cartilages were removed. The tenth cartilage seemed to have no connection with them but an area on the seventh was left bare. Carrel-Dakin treatment was instituted and at the end of ten days the cartilage seemed to be covered with granulations. The wound is not yet entirely closed and of course a cure is not to be claimed at this date, although complete healing is almost assured.

ACUTE OSTEOMYELITIS IN CHILDREN

Frank E. Brown, M. D., F. A. C. S.

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I HAVE been led to the selection of this subject for presentation today because of the delay in the bringing of these cases to operation—at that time too frequently in the advanced stages of sepsis with great destruction of bone.

Acute osteomyelitis is more common in children than adults (most prevalent between the ages of 5 and 15) and attacking the long bones—the tibia, humerus or femur being the ones usually involved.

Etiology. The staphylococcus aureus, S. albus or S. pyogenes are most frequently found to be the microbes causing the inflammation and involve the medullary portion of the bones; the steptococcus (rare) usually confines itself to cortical or periosteal infection.

History is often that of an acute or chronic infection of some sort, i. e., bronchitis, tonsillitis, etc.—in other words the microbes have been in circulation in the blood although producing no clinical manifestation till lodgment of a septic embolus in the terminal artery of a long bone. Then follows a sharp chill and abrupt rise of temperature and in severe infections the patient is acutely septic within twenty-four hours, due to septic process being under pressure in the bone. At first there is no pain, no superficial tenderness till soft parts become involved in the inflammation. At this stage the diagnosis of rheumatism is so often made in place of giving the patient the only chance (immediate operation) to escape the mutilating destruction of bone and too frequent death.

Differential Diagnosis. There is no effusion into joint early in osteomyelitis and the tenderness *lies over the bone,* not the joint and only on *deep prolonged pressure,* not superficial pressure.

The infection spreads longitudinaly and toward the surface forming a sub-periosteal accumulation of pus. This rapidly extends lifting periosteum from bone over a wide area till necrosis of shaft results. A pyaemia with death follows if the focus is not widely opened.

Treatment. A chill, rise in temperature, slight tenderness over bone but *pronounced tenderness on deep constant pressure* over long bone demand an immediate operation. There is usually some thickening over bone at this time and the incision should be carried down through it opening the periosteum. Often a collection of sanguinopurulent or purulent material is found here. Open into medullary canal with trephine or chisel and if periosteum is stripped over wide area trephine at other end of bone, passing a probe with suture and small plug of gauze attached from one opening in bone to the other thus cleansing out medullary canal. Dakin's tubes in both openings to depth of bone. In early cases one opening in bone is sufficient; limit surgery as you are dealing with a profound septic case but *open medullary canal for drainage.*

If case recovers additional operations will usually be required to remove necrotic bone but do not attempt to do more than adequately drain medullary canal in presence of acute infection. Open canal even if you believe infection to be periosteal if the case is at all acute as Dakin's solution will prevent severe damage to the bone if canal is uninvolved by infection—by so doing you will save many cases as the differentiation between medullary and periosteal infection is often difficult.

Presentation of cases and x-ray demonstration.

DIAGNOSIS OF EARLY GALL BLADDER DISEASE*

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Why is the diagnosis of early gall bladder disease necessary? Because gall bladder disease is a progressive inflammation caused by infection through the blood stream, and its treatment, cholecystectomy, done early results in permanent cure.

A gall bladder once infected is always infected, and may become at any time a source of real danger to the patient through either acute exacerbation of the inflammation or through change to carcinoma during middle or later life. This latter is a very real danger and in my experience occurs in one out of every twenty cases. At the very least the inflammation produces adhesions, causing annoying and in many instances disabling symptoms.

So many operations have been performed on the terminal pathology of this condition, with an attendant high mortality and disability from already existing complications, that it is time for early operation to be earnestly advocated, because early operation at a time when the disease is limited to the gall bladder means the saving of much discomfort and inefficiency later in life. At all events the patient should be given an opportunity to choose in the early stage of the disease whether he wishes to continue to be subject to recurring attacks of so-called indigestion, with the added danger of acute inflammation, and the final danger of carcinomatous change.

Formerly the high mortality of operations in this region was thought to be a bar to operative interference except in advanced cases; it is these very cases which are responsible for the high mortality; the disease should not be allowed to progress to this point. The lesion is initiated in the gall bladder, and early removal of the gall bladder will prevent the complications above stated, and also will be attended with an extremely low mortality. This mortality should be no higher than that attendant upon operations for chronic appendicitis. The cases in my experience which have succumbed have been those in which carcinoma was present or in which the disease had extended to the common and hepatic ducts, or in which there was gangrenous inflammation and perforation.

How may the early diagnosis of gall bladder disease be made? Pain is the most constant symptom and to the patient the most important. There may be a typical cramp in the epigastrium or region of the gall bladder referred to the back or shoulder or the pain may be present in the back alone or to the left of the epigastrium so that stomach ulcer is suggested. The pain may form a girdle about the waist. This latter I have found in about 2 per cent of cases. In many patients but one painful area will be found posteriorly extending the breadth of both lower dorsal vertebrae from 2 cm. to the right of the vertebral column to the posterior axillary line. This area was found in about 10 per cent of the cases examined. In some patients it was the only evidence of gall bladder disease. Epigastric pain varies from a mild cramp to the most agonizing pain. The milder pains may be called indigestion and are perhaps so mild as to be treated by the patient with household remedies. The majority of cases start slowly with cramps in the epigastrium, loss of appetite, belching and feeling of fulness, vomiting, and feeling of heaviness in the stomach and dull pain. There is usually a previous history of indigestion which on close questioning resolves itself into a gall bladder attack. The first acute attack may occur in perfect health without ascertainable cause and it may be attributed by the patient to a hearty meal, to hard work or to worry and excitement, sometimes to pregnancy. In pregnancy hypercholersteremia is present but this is also present in nephritis, diabetes associated with acidosis and in the early stages of arteriosclerosis and malignant tumors. The bile of pregnant women contains a greater proportion of cholesterin than the bile of other persons. Clinically four out of five cases of gall stones occur in women and in many women the victims of gall bladder disease the history is obtainable that the lesion was first noted during pregnancy. This clinical deduction has been handed down from time immemorial but it is my belief that closer study will show that the relation between pregnancy and gall bladder disease is not a causative one but that the condition of the blood and bile in pregnancy serves to accentuate an already existing condition. In my own experience a number of carefully taken histories have failed to show any relation between the earlier stages of gall bladder disease and pregnancy.

An acute attack of characteristic colic is not essential to diagnosis. In about 25 per cent of cases personally observed there was never a severe colic but more or less continuous discomfort and stomach symptoms. In some cases stones were found in the gall bladder only, in others stones were found in the common duct, and in still others no stones but adhesions or carcinoma of the gall bladder, pancreas or liver was present. In the cases in which the symptoms were pronounced adhesions to the pylorus or duodenum could be demonstrated at operation. In such cases also, since in the last ten years it has been our custom to remove the appendix through the gall bladder incision, the appendix showed microscopically a chronic thickening and in many instances, adhesions. Some cases presented jaundice, fever and empyema of the gall bladder without pain; others cholangitis and intense inflammation without pain. In brief, only about 25 per cent of the cases studied had typical attacks, the remaining 75 per cent presenting a diversity of symptoms. It must be borne in mind, however, that the length of time between the attacks, especially if the pain is not severe, may be so long as to allow the attack to escape the patient's recollection. In the beginning of the disease the attacks are infrequent; as the disease progresses the attacks come at shorter intervals. Any pain in the epigastrium or upper right quadrant or in the back, shoulder or chest should be investigated as to its possible relation to the gall bladder. Given a patient who complains of stomach symptoms—pressure, fullness, loss of appetite, occasional nausea or vomiting—gall bladder disease should be thought of. These are the first symptoms and become more pronounced as time goes on. Twenty-five per cent of these cases will show at some time a characteristic attack; most of the patients will show atypical pain yet sufficiently clear to be recognized, especially if taken in connection with the fact that the pains do not fall into the category of other lesions.

Cramping pain in the epigastrium, more to the right side and going through to the back is characteristic. Such a characteristic attack may occur but once. Other symptoms such as jaundice, fever, vomiting, constipation, nervous symptoms, cardiac complications, changes in metabolism resulting in loss of weight, enlargement of the liver, enlargement of the gall bladder, symptoms of other organs involved in adhesions, inflammation of the common duct, conditions resulting from chronic jaundice, are symptoms of advanced gall bladder disease.

What is the sequence of symptoms in gall bladder disease? The sequence of symptoms in the study of over a thousand histories shows the following:

Stone quiescent in the gall bladder. No symptoms.

Sudden temporary closure of the cystic duct. Cramp in the epigastrium.

Slightly more prolonged closure of the cystic duct. The epigastric cramp is *followed* by pain and soreness over the gall bladder and soreness and distress over the *liver* running around and also through to the back.

More prolonged closure. To the above sequence is added pain over the angle of the scapula.

Such symptoms mean stone in the gall bladder engaging from time to time in the cystic duct or neck of the gall bladder. At some of the attacks and as a final symptom in the sequence, the passage of the gall bladder contents, mucous and thickened bile (not the stone), through the common duct may be marked by moderate pain in the region of the normal site of the appendix in the right iliac fossa and for this reason such an attack may be mistaken for appendicitis.

Permanent closure: The pain and soreness over the gall bladder and soreness and distress over the liver running around and through to the back persist for a time and then subside, leaving the gall bladder in a state of hydrops; or *infection* of the gall bladder contents is added and a condition of empyema with more pronounced local symptoms over the gall bladder and with general symptoms of infection exists.

Note that the infection of the gall bladder contents may be present at any stage but will not give symptoms unless virulent, and involving the gall bladder wall, if the contents of the gall bladder drain readily through the ducts. In more prolonged closure added infection increases the pain and tenderness and fever is also added which later disappears when drainage through the ducts is re-established by the displacement of the stone.

It is manifestly impossible to state in the time allotted the refined details of the relation between the symptoms of gall bladder disease and its pathology; yet it is this very study of the minute changes which occur progressively in gall bladder disease which allow one, once conversant with them, to make early diagnosis. In other words, to make an early diagnosis one must be familiar with the minute pathology of the disease in all its manifestations, as well as with the pathology of other abdominal lesions in connection therewith.

Conclusions. Any patient, fat or thin, young or old, having mild or severe cramp in the episgastrium ordinarily looked upon as indigestion, the patient being free from cardiac or pulmonary disease, and being free from tenderness over the appendix or history of tenderness over the appendix, will on operation show ninety times out of a hundred, gall bladder disease and the other ten will show a surgical lesion of the appendix, stomach, liver or pancreas. If to this sympton of cramp in the epigastrium is added pain or soreness over the gall bladder or a history thereof, a diagnosis of gall bladder disease can be made with certainty.

END RESULTS OF OPERATION FOR TUBERCULOUS PERITONITIS

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In 1910 I had the privilege of reading to the Brooklyn Surgical Society a paper on Tuberculous Peritonitis which was published in the LONG ISLAND MEDICAL JOURNAL in November of that year. The exciting cause of this paper was a series of unusually interesting cases occurring within a short period. Two of those cases have recently come under observation again and seemed to be of interest in demonstrating end results. I regret that they have not appeared as arranged.

Like many other surgical procedures the operation for Tuberculous Peritonitis has been fairly well standardized. The majority of writers on this subject agree that in the event of failure to materially benefit a case of the ascitic type of patient, thorough dietetic, hygienic and medicinal treatment, abdominal section should be advised. The present view is that such an operation should comprise:

1. Evacuation of fluid.
2. Observation of the extent of peritoneal involvment
3. Removal of appendix or the uterine appendages if involved to such an extent as to indicate that they were primary foci.
4. Closure of the abdominal wound without drainage.

Exceptionally some surgeons advise prolonged drainage with a glass tube.

There is a general concurrence of opinion that adhesions should be left undisturbed and that all intraabdominal manipulations be interdicted except most gentle provisions for the free access of air to every nook invaded by the disease.

Whether or not cases of the fibro-plastic type of Tuberculous Peritonitis should be subjected to abdominal section is still discussed with the majority considering it ill-advised and productive of little good.

The two cases which I wish to present for your consideration are apparently perfectly well at a date sufficiently remote from operation to make permanent recovery a fairly accurate conclusion.

CASE I.

Eleven years ago a fragile girl of nine years, born of Swiss parentage, showed typical signs of tuberculous peritonitis with ascites. Median abdominal incision revealed a fairly diffuse miliary tuberculosis of peritoneum with the major involvment in right iliac region and the right side of pelvis. The involved appendix was removed. The uterine appendages were left untouched. The few intestinal adhesions were left undisturbed. The abdomen was closed without drainage, and a good recovery from operation followed.

During the time which has since elapsed she has lived in a thickly settled portion of the city, has *not* had the advantages of the excellent hygiene recommended, has been fed viciously, and has persistently refused to be bound by an antitubercular regime and being a modern radical child has been uncontrolled (not uncontrollable). Yet at this time careful investigation shows no sign or symptom of tubercular disease within her body. She is frail looking and may be considered a good subject for reinfection under conditions which modify her immunizing reactions, but is today an average physical specimen of the spoiled daughter of the working class, twenty years of age.

CASE II: An extremely emaciated girl of fifteen years was referred to me twelve years ago by Dr. Elizabeth Hatton. The entire abdomen was tense with fluid and there was a slightly movable tumor measuring two by four inches lying diagonally just beneath the liver. Seven pints of ascitic fluid were evacuated by a median incision. The extensively involved appendix was removed. The considerably involved uterine appendages were not removed. The entire peritoneum was closely studded with tubercles of varying sizes. The retroperitoneal glands were extensively involved but were left untouched. The tumor which had been discerned in the pre-operative examination was found to consist of practically all of the small intestines so closely and irregularly wadded into a mass that absolute obstruction seemed imminent and unavoidable if left adherent to one another. The adhesions were found to be soft and reasonably separable. Therefor with all gentleness the vermicular mass was released, coil after coil, without experiencing the accident we all dread in such cases, perforation. About three-quarters of the intestine was thus separated when the patient showed evidences of severe shock and the procedure was stopped. The abdomen was closed without drainage. Her recovery was slow but uneventful, save for some leakage at the lower angle of wound which persisted for some months. Her mother was impressed with the lesson that the operation was merely the beginning of her treatment. Diet, hygienic measures and suitable tonic medication were strictly followed for about a year when we lost sight of the patient.

She is now a rosy-cheeked woman, twenty-seven years of age, weighs one hundred and thirty-seven pounds, and is vigorously well in feeling. Her lungs, abdomen and pelvis show no evidence of disease by clinical examination. She has been married two years. She now consults us for the relief of supposed sterility, which she ascribes to scanty, though regular, menstruation. She has a normal sized uterus, moderately anteflexed, a pin-hole os-uteri, and normal sized ovaries. The result in this case is particularly interesting because we did *not* remove the uterine appendages (as we have done for several years in similar cases) and because of the extensive intra-abdominal manipulations in which we indulged.

Therefore we may justly call attention to the excellent result obtained even though there was considerable departure from the standard surgical procedure. Which reminds us that however well standardized the surgical treatment of any disease becomes it may be well for us still to treat each case on its own merits and to modify our procedure in whatever manner seems indicated by the general principles of surgery.

In conclusion I desire to emphasize the opinion that in such cases of tuberculous peritonitis operation is merely the initiation of treatment. We may justly define its use by stating that it places our patient in such a condition as to render the dietetic, hygienic and tonic medicinal measures applied to other types of tuberculous more certain and complete in their effects.

A RATIONAL MODERN VIEW OF NEPHRITIS

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My remarks will be few and will be given very briefly.

Just about one hundred years ago John Bright inflicted upon the English-speaking people and fastened to them a name that has become a sort of fetish; so much so that we find a great many otherwise progressive physicians throwing up their hands and regarding a case of Bright's disease as a death warrant to the person supposed to have it. I think the term Bright's disease tends to fix the idea that there is present an incurable and progressive condition that is essentially a disease. I wish to protest as strongly as I can against this conception, for I am convinced that inflammation of the kidney is a condition amenable to treatment. Indeed, Cabot goes so far as to say that the presence of albumen and casts in the urine is evidence that there is a pretty good kidney capable of doing a whole lot of work and that they should not be considered as evidence of a diseased condition but as an effort at reconstruction; every evidence of this pathological condition is an effort at reconstruction.

A great deal of effort is being made to get away from that particular term—Bright's Disease—and it is interesting to see the different appellations that have been employed. First Delafield and then others have brought forward a large number of terms that are pathological rather than clinical in their significance, such as small white kidney, interstitial nephritis, contracted kidney, granular kidney, sclerotic kidney, etc.

Recently efforts have been made to introduce a nomenclature that will be of both clinical and pathological significance. Barker has devised a terminology that is rather too complex. Everything according to this terminology is a nephropathy. A very instructive and common sense article was presented by Dr. Tasker Howard a few years ago. He calls attention to the work of Volhard and Fahr who have tried to introduce a different and, possibly, a more comprehensive terminology. They divide these conditions into so-called nephroses and nephritides, the latter including glomerulo nephritis; and the cases in which there is hypertension, regarding the latter only as changes in the arterial condition of the organ. Combination of all three classes are recognizable.

So we see the effort to get away from the old terms and to substitute new ones and by so doing to fix the idea that, merely because one finds albumen and casts in the urine, the patient should not be looked upon as a foregone hopeless case.

In every case in which the symptoms of so-called nephritis are present one should look first for a focal infection. A great many cases of persistent albuminuria will clear up by the removal of a focus of infection. I know of one young man who was refused by a life insurance company because he had albumen in his urine. It was found that he had a local infection of a tooth. He had one tooth taken out and later a second. His symptoms disappeared and he was accepted by a life insurance company.

Allow me to emphasize this one fact, though I should not need to do so as you are all scientific men; I often see patients treated (or mistreated) under the impression that nothing can be done for them, that they are hopeless; and the point I wish to make is that Bright's disease as an entity is a thing we should forget and replace it by the idea of a multiplicity of causative conditions. We should bring ourselves to the idea that every patient who has anything of that sort deserves the most careful study, that many may be cured, and that a large percentage may be carried to a normal term of life, even though their symptoms may not be entirely controlled.

PREVENTION OF PUERPERAL SEPSIS

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The very few minutes I have allotted to me I will spend in making a plea for rectal examinations in obstetrics. It has actually been found that the mortality from Puerperal sepsis is the same as it was twenty years ago. That is hard to believe, but it is true. A large amount of it has been explained by the fact that the general practitioner does not cleanse the vulva and wear rubber gloves in making examinations.

How do these infections occur? We believe by carrying the germs from the vulva. It has been shown that the lower one-third of the vagina and the vulva contain numerous germs. We teach all our internes to make rectal examinations and by this method in a few minutes they can determine the condition and the presentation. The streptococci, staphylococci and colon bacilli are all found in the lower one-third of the vagina and a vaginal examination may carry them to the uterus.

It requires no special preparation in order to make a rectal examination. All one requires is a clean glove or a finger cot. How many times have you been called to a see a patient when you wished to ascertain the condition present and how far labor had progressed, and have spent fifteen or twenty minutes preparing for the examination? When you wish to know the amount of dilation just put on a finger cot and make a rectal examination.

The tendency is to have the gloves clean but the vulva not properly prepared by the nurse.

By rectal examination you can determine the position of the fetus by the sagital suture. You can also determine it by the fontanelle, and you can tell the degree of dilation of the cervix, and during labor, the descent.

Now as to the advantages of the rectal examination. First, it can be made quickly; (2) It is not necessary to shave and scrub the vulva. I do not mean that we do not do these things, but we follow every case

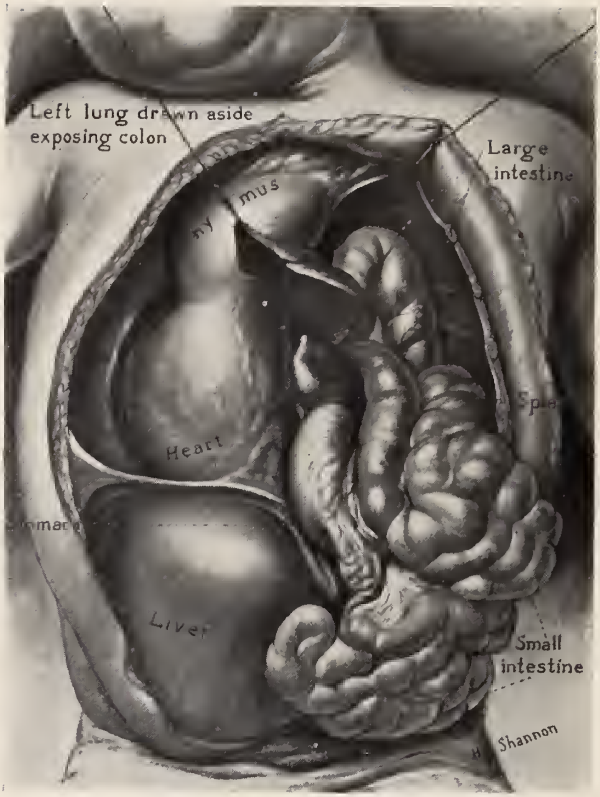

FIG. 1

Drawing showing dextrocardia, abdominal viscera in left pleural cavity, small atrophie left lung and large liver.

by rectal examination. If there is any doubt as to the position, etc., we make one vaginal examination. I do not want to say that we never make a vaginal examination because that is not true, but we make very few vaginal examinations. One can make as many rectal examinations as he wishes without risk of infection, and after a little practice one can find out just as much by rectal examination as he can by vaginal.

MASSIVE FALSE CONGENITAL DIAPHRAGMATIC HERNIA WITH DEXTRO-CARDIA

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Mrs. M., twenty-six years old, Italian, family history negative. Previous history, no serious illness. Has had three former pregnancies with one set of twins. All four children living and well.

On April 20th, 1919, I delivered her of a six-pound-seven-ounce female child. It was born spontaneously and at birth its color was normal but in a very short time turned a dark blue and remained so until death. The change in color corresponded with the cessation of the pulsation of the cord. It cried vigorously at first but the respirations stopped entirely a few minutes after delivery, but when the child was stimulated they started again. Breathing continued regular but later became dyspneic and the child apparently died from pulmonary oedema seven hours after birth.

Judging from the cyanosis the child was considered a blue baby but no murmer was detected over the precordium.

At autopsy the external appearance was that of a normal child except for the bluish discoloration of the skin. On opening the chest and abdomen several very striking anomalies were found. The left thoracic cavity was filled with the stomach, spleen, pancreas, one-half of left kidney, part of duodenum, ileum, cecum and greater part of colon. These organs were free in the pleural cavity with the exception of the kidney. A very small rudimentary left lung, showing division into two lobes, was found in the upper part of the thorax.

The heart was completely on the right side. Between the auricles was a small patent foramen ovale. The pulmonary artery, which was almost as large as the aorta and lying almost in front of it, was continuous with the ductus arteriosus which was also patent.

The right lung was made up of three lobes and had a large depression filled by the heart. The thymus was normal.

The abdominal cavity contained the following: a large liver which extended down to the brim of the pelvis, a right kidney normal in size and position, one-half of left kidney, and the sigmoid which extended in a straight line from the rectum to the opening in the diaphragm.

The right side of the diaphragm was normal. The left side showed good muscular tissue, normal attachments anterior and laterally, but no attachment to the posterior chest. This left an opening 2 x 5 cms. in size through which passed the cardiac end of the stomach, a loop of the duodenum, the colon and the left kidney, making a false diaphragmatic hernia. The kidney was retroperitoneal and formed the posterior boundary of the opening.

The hernia in this specimen was undoubtedly formed during the early life of the foetus or we would not have the rudimentary lung on the left side. The dextro-cardia is secondary to the hernia. The patent foramen ovale and ductus arteriosus are possibly due to the fact that the heart is out of its normal position.

Diaphragmatic hernias, true more often than false, are rather common. They vary in size from a small sac containing a part of one organ, usually the stomach, to hernias which fill one half of the chest cavity and contain one or several of the abdominal viscera. They are more frequent on the left side because the liver is on the right side. Most of these patients die befor the correct diagnosis is made. Some are operated on successfully and in others the true cause of their illness is not found unless an autopsy is performed.

Keath studied thirty-four specimens with diaphragmatic hernia in the Medical Museums of London and found that seventeen were on the left side and passed through the left pleuro-peritoneal opening. Of these twelve died at birth or were still born, one lived six hours, one three months, one to the age of thirty-four, and one to old age.

Gross reported a case of a still born infant in which there was no muscular diaphragm on the left side. It had a large sac which filled the whole left thorax and contained an anomalous lobe of the liver, the stomach, small intestine, omentum, part of transverse colon, the spleen and the pancreas. The left lung was compressed and way up in the thorax. The heart was on the right side. The foramen ovale and the ductus arteriosus were patent.

Wood in 1916 reported a case of eventration of the diaphragm with dextro-cardia in a girl of 18.

Morgan in the same year reported a case of dextro-cardia with patent foramen ovale in a child that lived nine months. The skin was cyanotic over the whole body most marked on the face.

Judging from the cases of Gross and Morgan, as well as the one just reported, it would seem that the dextro-cardia must have some influence in causing the patentcy of the foramen ovale and the ductus arteriosus.

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THE BASIS OF TREATMENT OF NEPHRITIS

By Frank Bethel Cross, M. D.

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The basis of treatment of nephritis is a broad consideration of the underlying pathology and as thorough an understanding as is possible of the physiology modified in consequence of the tissue changes. Necessarily such a basic concept is complex and comprises a number of factors. These are, briefly:

1. Considerate treatment of the kidney tissue through influencing its functioning,
2. The judicious control of the incidental circulatory overload and unbalance.
3. The maintenance of proper nourishment of the body so that the kidney structure itself will not suffer from malnutrition.
4. The attack on the original focus from which the cause of the nephrosis or the nephropathy arises.

Let us take up the phases of the problem, one by one.

1. *The kidney itself* requires consideration because of its disturbed function, treatment in this regard being largely a matter of attempted conservation, through lessening the burden of work. This is particularly made necessary by the restricted faculty of excretion of certain nitrogenous and mineral substances, and the hyperpermeability to serum albumin, red blood cells and acetone bodies. This means a lacto-farinaceous diet and the utilization of the skin and intestinal tracts as adjunct excretory channels. Furthermore, the limiting of exercise, the voluntary cutting down of worry, and the maintenance of a stable skin temperature each contribute to the desideratum of improved function.

From examination of pathological specimens, we have learned that badly scarred kidneys often functionate amazingly well for a long time. One-half the kidney tissue may be replaced by fibrous tissue and yet the renal function be performed creditably without the precipitation of critical developments. In this connection one cannot but wonder if there is in nephritis the same tendency to regeneration of special cells as is observed in the liver of cirrhosis. The anatomical conditions are such that this is improbable.

2. *The possible disturbance of the action of the heart* is a natural consequence of the increased blood pressure observed in many nephropathies, and the establishment of compensatory cardiac hypertrophy. When circulatory symptoms supervene, the chief features in treatment are rest, digitalis regardless of the kidney lesion and the increased blood-vessel tension, and eventually restorative graduated exercises. In relation to the question of vascular hypertension arises another query: is high blood pressure always of nephritic origin? If not, then why in hypertension, admittedly of variable causation, prescribe routinely the low-protein, iron-free dietary? Why not differentiate in treatment as well as in diagnosis?

3. *Dietary considerations* are important, but in avoiding Scylla, steer not into Charybdis! The tendency in practice is to reduce the kidney excretion load until such a malnutrition is attaned that, as it were, we are using a broken-down wagon to carry a toothpick, all to no one's profit. There is nothing gained through a parsimonious diet carried beyond a brief period of a few weeks; nothing but the establishment of an anemia greater than the normal secondary anemia of the disease itself. Many a nephritic patient is starved to death's door by his diet.

The development of edema provides reason for the most careful consideration of the related problems of salt retention and the more uncommon primary water retention. Thirst under such circumstances becomes a special question, and the amount of diluent allowed per day must be determined after consideration of the individual case; it is not possible to lay down any general rule beyond saying that water is to be permitted in that quantity which will not contribute to an increase in the edema. In edematous states, the fluid intake should be kept below the total fluid output.

4. *The attack on the focus* promises much. The experience of each of us is growing riper as time goes on and we are all viewing with pleasure renal cases arrested at a certain point as a result of surgical attack upon foci of infection. In some instances, when the attack has been consummated early, we have been rewarded by seeing the nephrosis clear up entirely. This is a most

encouraging feature of present-day principles in the treatment of nephropathies and nothing should be neglected to rid every case of peridental and tonsillar foci, which daily release unknown amounts of irritating bacterial products. The tabulation of results in two groups of cases treated by the contrasting methods of expectation and "clean-up" in a recent report of the Clifton Springs Sanitarium affords ample demonstration of the value of surgical co-operation. The outlook is progressively better as the focus of infection is earlier attacked.

THE DIAGNOSIS OF HEMORRHAGE, EMBOLISM AND THROMBOSIS

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The subject for discussion during the next few minutes can lay no claim to originality. It is merely an effort to put in concrete and condensed form a few salient facts concerning apoplexy. When the writer agreed to accept the assignment "for ten minutes worth of apoplexy," he at first felt a good deal like the Irishman who said he "was forced to volunteer," because the topic is so time-worn; but as Starr says, there is probably no other condition in which errors of diagnosis are so frequently made. This difficulty, probably common to all of us, has bred the hope that a few moments spent in its study may be worth while.

Upon being called to a patient who has suddenly fallen in coma or been found lying unconscious in bed, and where the history suggests a possible apoplexy, one should immediately search for signs of paralysis, which are not always easy to detect during the first few hours after the stroke, but careful observation and examination will usually demonstrate which side of the body has been affected by a beginning hemiplegia.

1. If the patient breathes deeply, there may be noted a difference in the movements of the two sides of the chest, the excursion being less on the affected side.

2. The pupils are apt to be inactive to light, dilated and irregular in size, the larger pupil being on the side of the brain lesion. An exception to this is found in cases of pontine hemorrhage, where the pupils are contracted to pin-points.

3. There is loss of the corneal reflex on the paralyzed side. This is an important diagnostic point, not only for localizing the side of the body involved in an apoplexy, but as a means of differentiating the coma of apoplexy from a toxic coma, for in the latter instance the loss of the corneal reflex would be found in both eyes. In severe cases, the head and eyes are often turned away from the paralyzed side; as it is so often put, "The patient looks toward his lesion," unless there has occurred either a cortical or intraventricular hemorrhage, in which case we will find a reversed situation and the patient will look away from the lesion; this condition, however, should present no difficulties as there will be found other associated irritative phenomena and the paralyzed limb will be spastic instead of flaccid.

4. The elbow of the affected side can be passively flexed to a greater degree than that of the healthy side; the arm and leg on the paralyzed side will fall more heavily than do those of the sound side, and when the limbs are lifted up in turn and allowed to drop, it will

be seen that the paralyzed limb lies extended whereas the healthy limb tends to be hemiflexed. At the onset of an ordinary apoplexy, there will be found an extensive plantar reflex in the toes of the affected foot while all the other superficial reflexes on that side are diminished or absent. The unilateral absence of the abdominal, cremasteric and conjunctival reflexes furnish important information early in the attack. The Babinski toe sign is almost invariably developed within a few hours and persists indefinitely.

5. The temperature of the paralyzed side is usually higher by one or two degrees than the other, although the general temperature of the whole body falls at first.

Having settled to our satisfaction that there is a hemiplegia present, our next step will be to endeavor to ascertain the cause of it; whether it be due to a hemorrhage, thrombosis or embolism. Perhaps a better title for this paper would have been "Hemorrhage vs. Softening," since thrombosis and embolism are both forms of cerebral softening, and it will tend to simplify matters to consider them both under the one caption to as great an extent as possible.

In a paper of so limited a scope, it will be possible to discuss in the main only those symptoms of cerebral hemorrhage which occur most commonly and which are due to rupture of the anterior branch of the lenticulo-striate, the so-called artery of cerebral hemorrhage. In any case of hemorrhage, the two chief causative agents are: 1. high arterial tension; 2. lowered arterial resistance. The blood stream under pressure drives through the rigid aorta and carotid and breaks with full force upon the arteries arising from the circle of Willis; these being of small lumen and without anastomotic outlets, receive the full brunt of the cardiac pounding. Surrounded by yielding tissues, their walls weakened by age or disease, they easily succumb to rupture. The onset of capsular hemorrhage is almost invariably abrupt, the patient is stricken down and unconsciousness occurs in three-fourths of the cases; in which event, we find the deeply congested face and conjunctivae, the body covered with sweat, the half-open eyes with their inactive pupils, the puffing respiration.

The opening picture in cerebral softening is usually different; and by softening is meant that tissue degeneration which results from blocking of the nutritive blood stream and the consequent starvation of the tissues supplied by it. This arterial blocking occurs in three forms: 1. by the formation of a clot within the vessel; 2. from plugging by an embolus starting at a distance; 3. from local clotting following the lodgment of an embolus. The initial symptoms of softening are dominated by two factors: 1. the rapidity with which the arterial current is blocked; 2. the size of the vessel involved. The cases in which rapid blocking occurs, are mostly due to embolism, so that it can be stated as a rule that initial violent symptoms where hemorrhage can be excluded are due to that cause, but it must be remembered that a diagnosis of embolism cannot practically be made in the absence of cardiac symptoms. In cases of abrupt softening, the patient has a stroke followed by loss of consciousness, perhaps even the development of coma, hemiplegia developes, consciousness returns and more or less paralysis persists. In about one-half the cases, consciousness is not lost and as a general rule the shock is not so great as in hemorrhage. Distinguishing softening from hemorrhage, we seldom encounter the slow strong pulse, the subnormal temperature, the unilateral heat, the congested face, the respiratory difficulty and the prolonged coma so characteristic of hemorrhage. Again, hemorrhage especially when small, frequently shows the maximum symptoms early, with gradual betterment; while in thrombosis the symptoms manifest a tendency to spread and deepen. In a fair proportion of all thrombotic cases, the early symptoms are progressive; a monoplegia becomes a hemiplegia, paralysis beginning in the leg invades the entire extremity, reaches the upper limb, implicates the face, disturbs the speech when on the left side of the brain, and the hemiplegia is complete. This is due to the fact that the thrombus, increasing its length, gradually works its way down the artery from its starting point. But many cases of softening present quite a different situation, for frequently the blocking of the arteries is a very slow and gradual process, with increasing diminution in the caliber of the vessels lasting over months and even years. Here the patient complains of various paresthesias; at the same time, the face may show a transient paresis, the leg may be dragged a little and there may be noticed a slight clumsiness in skilled movements of the fingers; also slight blurring of the speech. These symptoms are most apt to be marked toward night or after fatigue. They indicate a localized anemia and lowered nutrition of the brain centers that foretell the coming paralysis. Thus we see that the paralytic state in softening may be induced suddenly or may advance gradually, preceded by numerous warnings. Sometimes it happens that even after the most careful analysis of the history and symptoms there will be doubt as to the diagnosis between hemorrhage and softening. In any such case, lumbar puncture may be done. If we obtain blood-stained fluid or fluid which has a yellow tinge even after centrifuging, the diagnosis will be much simplified.

Ophthalmoscopic examination is an extremely important measure. A diffuse retinitis is highly suggestive of basal syphilis or syphilitic endarteritis. In hemorrhage the blood vessels of the disk are apt to be engorged; this is not so in embolism or thrombosis.

The end result is the same in both hemorrhage and softening; the paralysis, the deformities and contractures do not differ. Then why should we be so exercised regarding the making of a differential diagnosis between these causative conditions? For two reasons: first, because the indications for treatment are diametrically opposed in the two states, and secondly because of the difference in the prognosis. The tendency to immediate death is less in embolism and thrombosis than in hemorrhage. In every case of thrombosis the prognosis should be guarded for at least a week, until it has been determined that the thrombus is not spreading. The condition presented by a given case of softening at the end of the first month is apt to be permanent; this is especially true after middle life.

In hemorrhage, about two-thirds survive the first attack, one-third the second, and very few the third. The prognosis is grave in proportion to the violence of the attack and the depth and duration of the coma. Coma lasting three days rarely ends in recovery. The appearance of Cheyne-Stokes respiration or indications of ventricular flooding, practically mean death. Unless there is some improvement in the paralysis by the end of the second week, it is likely to be permanent. The appearance of contractures implies lasting functional loss wherever they develop.

OCCIPITAL INTERMITTANT CLAUDICATION.

Tasker Howard, M. D.

Brooklyn, New York.

The disturbances in function of the extremities, the pain, parasthesia, weakness or cramps, which come on with use, as a result of arteriosclerosis of the peripherel vessels, have been known since 1858, when Charcot first described the condition and called it intermittant claudication. It is most frequently seen in the legs, less often in the arms, and it is thought to also affect the viscera, as in the so-called abdominal angina. True angina pectoris is at present more generally ascribed to hypersensativeness of the sensory arc, as described by MacKenzie. A lumbar type of intermittant claudication has been described by J. Ramsay Hunt (American Journal of the Medical Sciences, February, 1912), who suggests that backache in the aged may more frequently be due to a local arteriosclerosis than is generally supposed. In a case recently observed by the author, this phenomenon was found to affect certain branches of the external carotid, particularly the occipital, and the case is reported as bearing upon the etiology of headache. It is a factor which may be worth bearing in mind in considering the possibilities in a case where the patient is past middle life.

Case Report: Mrs. X., 67 years of age, a widow and the mother of two children. Her past history included an operation for gall stones twenty-five years previously and an attack of grip which had confined her to bed for three days seven years ago. Otherwise she had been a healthy vigorous woman.

For five or six years she had noticed a little dyspnea on going up stairs. For the past year this has been noticeably worse, and she had suffered from pain in the back of the head whenever she moved about. This would disappear when she sat down and remained quiet. At times the pain involved the back of the pharynx, boring through to the occiput. Both pains were sometimes induced by chewing or eating anything cold such as ice cream. The occiputal pain had become so extreme that the patient, while up and dressed, was obliged to sit very quietly, in which position she was quite comfortable. The dyspnea had also been increasing recently and had become noticeable even when she was at rest. Her appetite was good, her bowels a little constipated, and she got up once or twice at night to urinate.

Examination showed a somewhat bent, slightly obese old lady, weighing 170 pounds. Her pupils were normal. The teeth were false. The neck was rather short. There was no rigidity of the neck and the lymphatic glands were not palpable.

The lungs were resonant throughout. No rales were heard. The heart was enlarged, and beside a mitral regurgitation, showed the basal systolic murmur of aortic roughening. The rythm was normal. The peripheral arteries were tortuous and hard. The blood pressure was 180/85. The liver was not palpable. The legs showed slight edema.

The urine amounted to 50 ounces in twenty-four hours. The specific gravity was 1.016. It contained a trace of albumin, a few hyaline casts, red and white blood cells and epithelial cells. Her phenolphthalein output amounted to 55 per cent in two hours.

It was found that her pain could sometimes be relieved immediately by nitroglycerin. She was put upon digitalis for the failing myocardium and 10 per cent tincture of iodin, X to XX minims in milk three times a day to overcome the tendency to vascular spasm. Her improvement was quite marked and in the course of a week, when the blood pressure was reduced to 160 she could walk about freely without any headache. The pain after eating, running from the throat through to the back of the head and neck was harder to control, but it was found that with light meals it did not come on unless something cold was taken. One severe attack was induced by her climbing out of the window on to the roof to pick up something and another one by eating ice cream.

Remarks: The symptom known as intermittant claudication involves three factors: (1) local arteriosclerosis with narrowing of the vessels and consequent lessening of the blood supply to the parts, (2) intermittant further narrowing of the vessels through spasm, due to a hyperirritable vasomotor system, and (3) a further relative circulatory insufficiency when the demand for blood is increased by use of the part. In the cases under consideration arteriosclerosis was obviously present, the pain was induced by physiological activity of the part or by cold, and was relieved by rest or by measure aimed at controlling arterial spasm. The vessels involved in this case are certain branches of the external carotid, particularly the occipital, with its ramifications not only up over the scalp but down to various muscles on the posterior aspect of the neck, and possibly the ascending pharyngeal.

DIAPHRAGMATIC HERNIA IN AN ADULT STOMACH IN LEFT THORACIC CAVITY

Hartwig Kandt, M. D.

Brooklyn, New York.

The report of this case was requested by the committee as a counterpart to the case of congenital diaphragmatic hernia in an infant, reported before me by Dr. Mayes.

Mrs. C, age 52, was admitted to the M. E. Hospital in May, 1919, for the relief of progressive dyspnoea and oedema of lower extremities. The previous history is unimportant, except that she had her first child at seventeen and thereafter one every fourteen months until she had fourteen children. The only other point of interest in her history is that two years ago she strained herself severely by heavy lifting. From this time date her present complaints.

Physical examination showed the usual signs of stasis due to inefficiency of the heart, which seemed to be well over to the right of the sternum. The left chest posterially showed impaired resonance, but anteriorly and laterally more than the usual amount of tympany. X-ray plates were taken and showed the heart displaced to the right with an area of increased density over the left lower lobe. A possible explanation of the cardiac displacement was made on the basis of left pleural effusion, but only a little bloody fluid was obtained by aspiration.

Another X-ray plate taken a week later showed a rather different appearance of the lung, although the heart remained on the right side. What had been an area of density in the previous plates showed now as an area of rarefaction. Our rediographer was rather non-committal in his interpretation but thought that this loss of density may mean an empty pus cavity. The patients symptoms improved and she was discharged with a diagnosis of dextro-cardia and pleurisy with a question mark after the diagnosis. After a few months the patient returned to the Hospital complaining again of bad dyspnoea and was this time admitted into the other medical service. Physical examination showed the heart in exactly the same position as at the time of her first admission and over the lower two-thirds of the left chest anteriorly and laterally an unusual amount of tympany . Another X-ray plate was taken and showed again the heart on the right side and not one but two areas of rarefaction in the left chest. We could not convince ourselves that this was a true case of congenital dextro-cardia and it occurred to us that we might be dealing with a diaphragmatic hernia. Accordingly we gave the patient a bismuth meal and then took a plate which showed plainly that we had a case of diaphragmatic hernia and just the rarified areas were an airfilled stomach which rose up to the third rib anteriorly and pushed the heart and thoracic aorta well over to the right. On examining the patient again we found the physical signs to correspond exactly to such a state of affairs, loud peristaltic sounds being heard at times over the left chest, as one expects to hear over stomach and colon.

A Rehfuss tube was then filled with bismuth paste and the patient made to swallow it. The picture shows very prettily, now, by reason of the shortened distance between pharynx and cardiac end of stomach, the esophagus had become distorted forming a loop instead of a straight line.

The question arises, what type of diaphragmatic hernia are we dealing with. The traumatic type may be eliminated, as patient has never sustained a penetrating wound. Only two other types remain, true diaphragmatic hernia and so-called eventration. The former penetrates the diaphragm and carries with it a sac of peritoneum and pleura, while the latter represents a weakness of an entire diaphragmatic leaf, which gives, and allows the abdominal viscera to push their way up into the chest cavity.

In this case the history speaks against a true diaphragmatic hernia, because if this woman had suddenly developed a hernia of this type by the strain of lifting two years ago, she would have probably gone into shock, and I am not inclined to attribute much importance to this strain except a contributory factor and probably as the event which threw her heart out of compensation. The X-ray evidence also speaks against true diaphragmatic hernia, because all the pictures show the uninterrupted dome of the diaphragm. If it was a true diaphragmatic hernia, we would expect to see a part of the diaphragm line, then a gap and then another portion of diaphragm.

I believe we have here a so-called eventration, that is a congenital weakness of one-half of one diaphragm which has gradually given way under the pressure of fourteen successive pregnancies. Considering the great distortion of the abdominal and thoracic viscera it is remarkable, that this woman up to the age of fifty could go through life with comfort and without subjective symptoms of circulatory, respiratory or digestive embarrassment.

EDITORIAL

CHIROPRACTIC.

GOVERNOR SMITH has vetoed the Chiropractic bill that passed both houses of the Legislature. If Governor Smith has no other claim to the gratitude of the people of this State, they should at least recognize in this action his far sightedness, especially when viewed in the light of the situation in New Jersey, where their sect has been legalized and their articles of faith defined.

Some years ago the purely commercial side of this 'ism' was shown in an advertisement quoted from a Chicago publication, which advised people of both sexes that they could study Chiropractic evenings, that necessary books and a papier mache spine would be furnished with the money covering the cost, and that they could make lots of money by practicing on their friends. The "Chiropractic thrust" is a form of ignorant violence that doubtless jars some susceptible people into a sense of temporary betterment, but it has more than once resulted in serious injury to tuberculous spines, and like everything else that is based upon ignorance and misconception, it is a dangerous weapon to legalize.

The definition of Chiropractic that has been incorporated in the New Jersey Law is a weird conglomeration of things religious, mystic, bombastic and assinine. As a definition it does not define, is ungrammatical and incomprehensible, but parts of it are apparently constructed so that the practitioner may hide behind a claim of practicing the tenets of a religious cult.

Viewed in the light of the Chicago advertisement already mentioned, the mysteries of the art resolve themselves into *mere hocus pocus,* designed to abstract money from the credulous. There is in all human beings a fondness for the mysterious which prompts them to patronize any form of cure that appeals to their imagination. They do not realize the dangers to which they subject themselves, and are as ready to testify to the beneficial effects of their treatment as are the disciples of Lydia Pinkham or those older enthusiasts who gave their whole-hearted support to Perkins' tractors, or to Cagliostro's mysteries, or to the divine rites of Isis as well as to whatever secret humbug the cave-men practiced.

In regard to this particular cult, one can forgive an ignorant enthusiast, but in the light of published advertisements can not overlook the open appeal to making money from methods that are, to say the least, questionable.

H. G. W.

FETISHISM.

THERE seems to be implanted deep down in every human being, even those of the highest intellectual development, a superstitious belief in the efficacy of the unknown. For instance; a highly intelligent woman, a graduate of a hospital training school, with an unusual professional experience, places herself in the hands of a physician for the relief of arthritis, and mentions quite casually that she shall of course continue to take certain medicated electric baths. Her knowledge of her own condition, sharpened by the experience of having nursed many similar cases, is not sufficient to show her that the constant absorption of toxins from patently diseased tonsils cannot be reached by soaking herself in a broth of herbs, while a mild electric current adds to her sensations without affecting her system. It is no unusual experience to meet otherwise intelligent physicians, who still have abounding faith in the efficacy of such entirely inert drugs as marshmallow, couch grass, pipsissewa and a host of other time-honored simples, a faith that has come down unchallenged since the days of Nicholas Culpepper. As an evidence of his devotion to herbs permit me to quote his description of the celandine which will serve as an example of how full of virtue a modest and retiring plant may be. Today it has lost all but its poetic standing, but Culpepper ascribes to it all that follows. Omitting its description and habitat and its time of flowering, we learn:

"Government and Virtues. This is an herb of the Sun, and under the celestial Lion, and is one of the best cures for the Eyes; that is, all that know anything in astrology, know as well as I can tell them that the Eyes are subject to the Luminaries; let it then be gathered when the Sun is in Leo, and the Moon in Aries, applying to this time; let Leo arise, then may you make it into an Oil or an Ointment which you please to anoint your Sore Eyes withal: I can prove it both by mine own experience, and the Experience of those to whom I have taught it, that most desperate sore Eyes have been cured by this Medicine; and then I pray, is not this far better than endangering the Eyes by the Art of the Needle? For if this do not absolutely take away the Film, it will so facilitate the Work, that it may be done without Danger. The Herb or Root boiled in Whitewine and drank, a few Aniseeds, openeth Obstructions of the Liver and Gall, helpeth the Yellow Jaundice; and often using it, helps the Dropsy and the Itch, and those that have old Sores in their Legs, or other parts of the body. The Juice thereof taken fasting, is held to be of singular use against the Pestilence: The distilled Water, with a little Sugar and a little good Treacle mixed therewith (the party upon the taking, being laid down to sweat a little) hath the same effect. The Juice dropped in the Eyes, cleanseth them from Films and Cloudiness which darken the Sight; but it is best to allay the sharpness of the Juice with a little Breast milk. It is good in old filthy, corroding, creeping Ulcers wheresoever, to stay their Malignity of fretting and running and to cause them to heal more speedily: The Juice often applied to Tetters, Ring-worms, or other suchlike spreading Cankers, will quickly heal them, and rubbed often upon Warts, will take them away. The Herb with the Roots bruised and bathed with Oil of Camomile, and applied to the Naval, taketh away the griping pains in the Belly and Bowels, and all the Pains of the Mother; and applied to Womens Breasts, stayeth the overmuch flowing of the Courses. The Juice or Decoction of the Herb gargled between the Teeth that ache, easeth the Pain, and the powder of the dried Root laid upon any aching, hollow or loose Tooth, will cause it to fall out.

The Juice mixed with some powder of Brimstone is not only good against the Itch, but taketh away all discolourings of the Skin whatsoever; and if it chance that in a tender Body it causeth any Itchings or Inflammations, by bathing the Place with a little Vinegar it is helped.

Another ill-favored Trick have Physicians got to use to the Eye, and that is worse than the Needle; which is to take away films by corroding or gnawing Medicines. This I absolutely protest against.

1. Because the Tunicles of the Eye are very thin, and therefor soon eaten asunder.

2. The CALLUS or Film that they would eat away, is seldom of an equal thickness in every Place, and then the Tunicle may be eaten asunder in one Place, before the Film be consumed in another, and so be a readier way to extinguish the Sight than to restore it.

It is called Chelidonium, from the Greek word χελἰδὼυ which signifieth a Swallow; because they say, that if you put out the Eyes of young Swallows when they are in the Nest, the old ones will recover their Eyes again with this Herb. This I am confident, for I have tried it, that if we mar the very Apple of their Eyes with a Needle, she will recover them again; but whether with this Herb or not, I know not.

Also I have read (and it seems to be somewhat probable) that the Herb, being gathered as I shewed before, and the Elements drawn apart from it by the art of the Alchymist, and after they are drawn apart rectified, the earthy Quality still in rectifying them, added to the Terra Damnata (as Alchymists call it) or Terra Sacratissima (as some Philosophers call it) the Elements so rectified are sufficient for the cure of all Diseases, the Humors offending being known, and the contrary Element given: it is an experience worth the trying and can do no harm."

It is by no means a far cry from 1675 to 1920 if one will but glance about him and observe the abject faith with which people submit themselves to Christian Science, Osteopathy, Chiropractic and chamomile tea and Heaven only knows what other faith cures. It is only a few years since that the writer was standing by the bed-side of a child who was dying in spite of generous doses of antitoxin, and an aunt of the child, a teacher in a public school, said that the dung of a white dog applied to the neck would cure diphtheria! And yet one looks with condescending pity upon the African savage, who attributes to his shell and feather decked wooden image, mysterious omnipotence for good and evil. Nevertheless, that school teacher is an intellectual marvel, when compared with the Legislature of the State of New Jersey, who have constructed for the enlightenment of an awe-struck world, their definition of chiropractic. It is essential that the Medical profession shall learn to distinguish between credulity and faith, and having learned, shall strive to raise the minds of their patients to the same level.

H. G. W.

Society Transactions

TRANSACTIONS OF THE BROOKLYN SURGICAL SOCIETY.

Regular meeting of the Brooklyn Surgical Society, held at the Building of the Medical Society of the County of Kings, 1313 Bedford Avenue, Friday, January 2, 1920, at 8:30 p.m.

The President, James M. Downey, M. D., in the Chair.

Program

CASE REPORTS:

1. Ilio-Femoral Aneurism.
2. Intra-abdominal Hernia through Transverse Mesocolon.
3. Thrombosis of Superior Mesenteric Artery.
4. Phlebitis. *Robert F. Barber, M. D.*
   Case 1 discussed by Drs. William B. Brinsmade and Robert F. Barber.
   Case 2 discussed by Drs. Richard W. Westbrook, John E. Jennings and Robert F. Barber.
   Case 3 discussed by Drs. Frederic C. Paffard and Robert F. Barber.
5. Abscess of Lung. X-rays.
6. Anthrax (2 cases). *Michael T. Reynolds, M.D.*

PAPER:

Review of literature of Abdominal Surgery for 1919.
William D. Brinsmade, M.D.
Discussed by Drs. Herman F. McChesney, John H. Long, Richard W. Westbrook, John E. Jennings, Frank D. Jennings and William B. Brinsmade.

JAMES M. DOWNEY, M.D., President.
FRANK D. JENNINGS, M.D., Secretary.

Ilio-femoral Aneurism.

Robert F. Barber, M.D.

G. C., male, Portuguese, age 42, admitted to the Long Island College Hospital June 7, 1917, complaining of a pulsating swelling of the left groin.

Married twenty years; four children, two dead from unknown cause. Admits two Neisser infections. Three months ago patient first noticed a swelling in the left thigh. It has been increasing in size. Patient does not complain of any particular disability.

Examination shows: Well developed male of 42 years, apparently comfortable.

Eyes react to light and accommodation pupils unequal.

Extra-occular movements negative.

Cervical glands palpable on both sides.

Heart and lungs negative.

Abdomen, inguinal nodes enlarged on both sides. On the left side in the inguinal region is a tumor, egg-size, with expansile pulsations rythmical with heart beat. The tumor extends under Poupart's ligament. Mass is 14 by 10 cm, and over it a systolic bruit can be heard.

Extremities. Left leg and thigh one inch greater in diameter than right. Pulsations felt in posterior and anterior tibal arteries on both sides.

Wassermann 4 plus. Blood-pressure, 120 systolic, 75 diastolic.

Urine negative.

Operation: Left rectus incision, the muscle being drawn to median line. Deep epigastric vessels displaced toward median line. Incision extended down to Poupart's. Pulsation of external iliac located. Peritoneum pulled back from the artery, sheath of artery opened. Anterior crural nerve and external iliac vein recognized and protected. Two black silk ligatures tied around artery above the deep epigastric. Wound closed with chromic gut, black silk for skin.

Following operation extremity was elevated slightly and kept warm with cotton. No untoward symptoms developed. On discharge the tumor was solid, non pulsating and apparently organizing. The left lower extremity was slightly cooler than the right, but otherwise the same as on admission.

Intra-abdominal Hernia.

Robert F. Barber, M.D.

A. D. fem., age 21, U. S., wrapper, entered Long Island College Hospital April 15th, 1919.

Chief complaint: Pain after eating and headache.

Family history: Negative.

Personal history: Had measles at the age of six and was ill for a week, recovered with no complications. Has attacks of tonsilitis every year, which began five years ago. Each succeeding attack worse than the previous one. Constipated and takes cathartics. Started menstruating at the age of 14 years, a 28-day type, four days duration. Has co-menstrual pains which are sticking in character, starting on the left side and radiating down to thigh. Has whitish discharge which started two years go and still persists. Burning sensation on urination. Denies any luetic infection.

Present illness: Complaint started June, 1918. Pain began immediately after eating, started from the throat and extending down to the stomach. The pain was relieved after vomiting. Vomited once a day usually one hour after meals. The pain always persisted in one place in the epigastrium and was dull in character. Headaches started six months ago after an operation. Headaches were both frontal and occipital, worse at night. The operation was for gastric ulcer.

Examination: Shows a woman of slight build but well nourished and of good color.

Eyes: React to light and distance, no extraoccular palsy.

Conjunctiva: Negative.

Throat: Negative.

Throax: The breath-sounds are normal. Percussion note normal except for a slightly higher pitched note over the right base. Heart not enlarged on percussion, the sounds are normal.

Abdomen: Shows the scar of an old operation in the upper right quadrent. No rigidity of the abdomen. The patient complains of pain through the abdomen on palpation. This she thinks is more severe just below the umbilicus. Liver and spleen not felt.

Back: Negative except for a tender spot on the left side in the lumbar region.

Reflexes: Negative.

Adenitis: Not felt.

Opinion: Gastric ulcer. T. B. kidney.

Wassermann examination: Negative.

Stool examination: Negative.

Renal meal: Nearly normal.

Refus rest meal: Nearly normal.

Blood-pressure: 120-80.

Blood-count: R. B. C. 4,576,000, W. B. C. 9000, HGB. 80%, differ. count number of cells 200, neut. poly. 68%, lymph small 22%, lymph large 10%.

Pthalin intram: First hours 25%, second hour 20%, total 45%.

X-ray report, April 6th, 1919: Stomach is empty after six hours. Greater curvature is slightly below umbilicus. Stomach is ortho-tonic, fairly active and cap fills well. The transverse colon is reduplicated upon the ascending colon and is apparently held down in right iliac fossa.

Diagnosis: Adhesions in right iliac fossa.

Examination: Urinalysis: Negative.

Pre-operative diagnosis: Undetermined.

Post-operative diagnosis: Intra-abdominal hernia of the small intestine into the lesser peritoneal cavity.

Operation: Exploratory laparotomy, reduction of intra-abdominal hernia and closure of the mesentery of the transverse colon.

An upper left rectus incision about 5 inches long. On opening the

peritoneal cavity, many rather firm adhesions bound the pyloric end of the stomach and the omentum to the scar of the old upper right rectus incision. These were freed. The stomach and duodenum were found normal. There were many adhesions about the cecum fixing it firmly in the right iliac fossa.
Kidneys both normal in size.
Liver, gall-bladder and pancreas normal.
On picking up the omentum and transverse colon a spindle shaped opening about 7 to 12 cms. was found in the left side of the mesentery of the transverse colon. About two-thirds of the small intestine had found its way through this and lodged in the lesser peritoneal cavity. The small intestine was removed by gentle traction and the mesenteric opening was closed with interrupted plain catgut sutures. A firm but movable blackish spot about the diameter of a dime was found at the inner coat of the small intestine. It was deemed inadvisable to do anything with this.
Wound closed with layer sutures. Linnen for the skin.
This mesenteric defect was not through the fossa of Treitz. The fossa and ligament of Treitz were clearly defined to the left. It was an opening similar to the opening made as a preliminary step of a posterior gastro-enterostomy.

May 16th, 1919: Stitches removed, wound healed by primary union.

May 17th, 1919: The patient says she is feeling well but is somewhat weak. She seems to be completely recovered, the wound is firmly healed and she has no abdominal tenderness. The patient is discharged and sent to Burke Foundation for convalescence.

Mesenteric Thrombosis.

Robert F. Barber, M.D.

M. D., female, age 47, admitted to the Long Island College Hospital on May 13th, 1919, married, U. S.

Chief complaint: Abdominal pain, weakness, distension.

Family history: Irrelevant.

Past personal: Menses started at the age of 14, regular 28 type, duration three days up to the past two years, when it has been about two days. Last period was May 3, 1919. Pregnant nine times. All normal births. Husband living and well. Patient has had slight leucorrhea for the past fifteen years.

Present illness: For the past few months patient has had some distress in the epigastrimum. This distress comes on about one hour after meals. Would become slightly distended at times. On May 12th, 1919, began having pains of cramp-like character, which started in the region of the umbilicus and spread all over the abdomen. Patient felt nausaeted and vomited several times that day, on the 5th, became distended. Last bowel movement on the 11th. Has taken castor-oil and enemata but cannot get a bowel movement. Chief trouble now is distension of abdomen and weakness with pain on movement.

Examination: Shows patient acutely ill.

Head: Pupils small, regular, react to light and distance. All extra-occular movements are negative.

Mouth: Lips are dry and parched.

Teeth: Many are missing and all in poor condition. Extensive pyorrhea present.

Lungs: Percuss resonant throughout. Breath-ounds normal except for many moist rales over both bases.

Heart: Not enlarged. Rate rapid. Sounds are of fair quality, no murmurs are present.

Abdomen: Greatly distended, tender throughout, but more marked on right side No masses are palpable.

Vaginal: Relaxed pelvic floor, slight rectocele, multiple Nabothian Cysts of cervix. Uterus not enlarged but retroverted.

Urine-analysis: Casts, many hyaline—few granular, otherwise negative.

Blood examination, red B. C. 42,000,000, white B. C. 32,000, HGB. 60%, cells 100, Neut. Poy. 90%, Lymph, small 7%, Transitionals 3%.

Blood pressure: 125-75.

Pre-operative diagnosis: Acute upper abdomen.

Post-operative diagnosis: Thrombosis of the superior mesentery artery and veins. Cholecystitis.

Operation: Exploratory laparotomy.
Upper right rectus incision. Tissues of abdominal wall very friable. On opening peritoneal cavity considerable reddish brown odorless fluid escaped. Gall bladder distended and acutely inflamed and not collapsible. Spleen enlarged to twice its normal size, no adhesions. Stomach and duodenum normal. Head of pancreas contained a large doughy mass. Peritoneum, upper abdomen and transverse colon injected. A slight amount of fibrinous exudate present. On lifting up the transverse colon the superior mesenteric artery and veins were found thrombosed and the mesenery contained a large inflammatory mass. There were areas of necrosis in the mesentery. The transverse colon was becoming gangrenous (bluish-black color) and distended. Wound closed with one drainage tube in the upper abdomen.
In view of the condition of the patient and the extent of the tissues involved no resection was deemed possible.
May 15th, 1919: Gastric lavage, returned considerable quantity of brownish fluid, no blood, no foul ordor.
May 16th, 1919: Gastric lavage this morning. Considerable greenish-brown fluid evacuated, no foul odor.
May 16th, 1919: Patient extremely cyanotic. Skin cold, pulse rapid and weak, 160. Heart sounds not good. Lungs, no impairment of resonance. Sibillant rales both sides posterior, many coarse, moist rales posteriorly, especially in right lower left, no broncial breathing.
May 25th, 1919: Patient died.

Phlebitis.

Robert F. Barber, M.D.

J. L., male, Russian, age 28, admitted Dec. 11th, 1916, to the Long Island College Hospital for relief of pain and swelling of the left leg.
Past history: Negative.
Family history: Negative.
Present illness: Began two years ago with pain and some swelling in the left foot, including the knee. Pain and swelling lasted for two weeks and disappeared. In a similar manner this same trouble has recurred several times in the past two years. Seven weeks ago a pain burning in character began in the left foot, and at the time a ridge appeared on the inner side of the leg. The burning in the foot was severe and the patient now has pain in the leg as well. States that foot and leg get cold at night and pain more.
Examination: Shows patient of moderate frame.
Head: Negative
Chest: Negative.
Abdomen: Negative.
Leg, left: Slightly swollen. On the inner aspect of the leg is a red streak over the course of the vein. On palpation the cord like vein is felt, tender with increased temperature over the site. The vein extends from two inches above the maleolus to just below the knee. Pulsations are present in the dorsalis pedis and posterior tibial artery.
Urine examination: Negative.
Wassermann: Negative.
Blood pressure: Negative.
Pre-operative diagnosis: Probable early thrombo-angitis obliterans.
Operation: With the patient's consent the entire vein was removed under ether anasthesia.
Result: Primary union resulted and the patient left the hospital *improved.*

At the operation the specimen was collected in a sterile Petri dish and cultures made from material by grinding the specimen in a mortar with sterile sand.

A culture of a gram positive diplococcus was obtained. On later cultures this organism proved to be a streptococcus.

On June 19th, 1919, the patient was readmitted to the hospital for recurrence of the phlebitis in the same vein higher up in the thigh.

He requested an operation this time. The same technique was carried out, and the patient left the hospital June 30th, improved.

Cultures revealed the same organism. Experimental work on this organism will be reported at a later time.

Abscess of Lung. X-Rays.

Michael T. Reynolds, M.D.

M. M., 17 years of age, single, nativity United States, occupation hairdresser.

Family History: Parents alive and healthy.

Past History: Sickly as an infant. Had an attack of appendicitis at 9.

Menstrual History: Began at 17; regular. No unusual symptoms. The patient had been in good health until August 17, 1917, when she had an operation for appendicitis. The wound was drained and she "was sick" after the operation, but was allowed up after two weeks. She began to cough and was feverish. She was put to bed and was given medicine "to sweat." She remained this way while in the hospital and went home after a week.

While at home she continued to cough, but was up and around the house. After six weeks the coughing ceased and she started to improve, but after two months she began to cough again, lost flesh and strength, the sputum became "pussy and tasted badly." In the beginning of February she went to bed and remained there. The family complained of the odor from her breath and from the foul expectoration. This had been examined three times for tuberculosis and found negative.

I first saw the patient March 4th, 1918. She was markedly emaciated, and after examination and this considered in connection with the history of the case, and also the foul expectoration, she was sent to the hospital with a provisional diagnosis of "lung abscess" for further observation and treatment.

On admission, March 5, 1918, the temperature was 99.4; pulse 104; respiration 24.

Examination showed a thin girl, with secondary anemia. Has fetid odor to breath. The abdomen shows an old appendicular scar. Chest, left—negative except for hyperresonance. Right—hyperresonance at apex. Just below this, in front, there is dullness with exaggerated voice and breathing sounds, with loud sibilant rales. At the corresponding site, in back, it is almost flat, with loss of voice and breath sounds. This approached the axilla.

X-ray showed abscess in right axilla.

First operation March 9, 1919. Local anesthesia (cocain). Incision 5 inches long, from the margin of the pectoralis major curved around the breast through the deeper tissues down to the fourth rib, which was exposed and about one inch removed subperiosteally. Pleural opening with clamp and large amount of foul pus evacuated. Rubber tube drainage. (Just before operation pus was found on aspiration and sent to the laboratory for examination. This was returned positive for pneumococcus type 4 and an autogenous vaccine was later given with no marked result.

She was dressed daily and began to improve: she coughed less and the sputum lost its foul odor. After the cough had disappeared, we tried to irrigate with Dakin's solution, but she complained of the burning and taste in her throat.

On April 1 the wound closed, but she began to run an evening temperature and it was necessary to re-open the wound with some discharge of pus. She kept on in her improvement and went home. Examination showed the presence of a cavity in the right upper lung, anterior aspect. This was confirmed by x-ray.

She continued to improve in both her general and local condition, put on weight and resumed work.

June 22, 1919, the cough returned, but had no fetor. Her general condition was good, but she had dullness in the posterior part of the right chest, in the region of the hilum, about the size of an orange. Voice and breathing sounds were diminished. With rest in bed this seemed to improve and she went home, having refused operative interference. The blood picture at this time was: Red blood cells, 4,000,000; white blood cells, 9,600; Hemoglobin, 75%; Differential

Polys., 77; large lymphocytes, 5; small lymphocytes, 17; eosinophiles, 1.

November 9, 1919, the patient began to expectorate blood after "catching cold." This continued for three days, but with medication and rest in bed this cleared up. The same physical signs still being present, she was sent again to the hospital.

Second operation, November 18, 1919: Preliminary aspiration—after some foetid pus was located, where the typical signs and x-ray indicated. The needle was left in as a guide and, under cocain, an incision about 6 inches long was made in the back down to the seventh rib. About three inches were removed. After stripping the periosteum, curved scissors were introduced and gave vent to one ounce of foul pus. The cavity was explored by the finger and was found to run in the direction of the hilum. Just at this point the patient complained of spitting blood and there was some bleeding in the wound. A rubber tube was inserted.

Pus was sterile.

Examination of blood: Red blood cells, 3,976,000; white blood cells, 14,600; Hemoglobin, 75%;

Differential:

Polys., 76; large lymphocytes, 5; small lymphocytes, 18; transitionals, 1.

Sputum negative to tubercle bacilli.

She was dressed regularly, the wound draining a small amount of foul pus. The cough has decreased somewhat in frequency and quantity of expectoration. There is little or no odor. Her general condition is markedly improved. She has put on about 9 pounds in weight.

We have instilled oxygen into the wound with no apparent benefit. There has been no evidence of pressure from the rubber tube. (The x-ray shows the rubber tube in the cavity).

Through the courtesy of Dr. Williams, the different x-ray plates were interpreted, showing the condition in its different phases, and he claimed that these conditions in the upper part of the lung were frequently followed by another abscess.

Anthrax (Two Cases).

Michael T. Reynolds, M. D.

E. E., 19 years of age, single, nativity United States, occupation brushmaker.

Family History: Parents alive and healthy.

Personal History: Patient had the usual diseases of childhood. Two months ago she had influenza.

Menstrual History: Began at 16 years; regular; 28 days; duration 6 days; two napkins; no pain; no discharge.

Other body functions normal and has been well until

Present Illness: On December 11th, 1919, she noticed a pimple on the root of the nose, just to the inner angle of the right eye. "The boss at the factory" squeezed the pimple and washed it with peroxide and applied a salve. It then began to increase in size and a marked swelling was noticed over the right eye. This kept increasing until

Admission to hospital, December 21, 1919. Temperature 104 degrees; pulse 110; respirations, 26.

Examination: Negative except for face, which was markedly swollen, red and brawny, extending down to the neck. The submaxillary glands were involved and seemed to be part of the general hardness. On the right side of the nose, close to the inner canthus of the eye, was a dark brownish scab which was surrounded by a raised pustular ring. A smear was immediately taken and was found to be positive for anthrax. The blood picture showed a moderate leucocytosis and slight increase in the polymorphonuclears.

The patient was etherized and the pustule was removed by dissection. It was hard and leathery in its consistency. The base was cauterized by a hot iron.

December 22, 1919—Dressed. The necrotic tissue of burn was not discharging. Redness and swelling not extending. Temperature 104; pulse 120; respirations 26.

December 23, 1919—Some thin yellowish discharge on dressings. Swelling softer and not extending. Temperature 103 pulse 106; respirations 30. In the afternoon was given serum. December 24, 1919—Swelling continuing to decrease. The submaxillary glands can be marked out. Temperature 101 in A. M.; 102 in evening.

From this time on there was a gradual improvement in the patient's condition until discharge from the hospital, December 27, 1919.

The medication was simply spirits frumenti half-ounce three times a day.

Examination on patient's discharge: The scar resulting from burn shows contraction with a tendency to keloid formation.

T. H., 57 years of age, married, nativity United States, occupation brushmaker.

Family History: Negative.

Past History: Never sick; good habits. Has mastoid operation several years ago.

Present Illness: On March 1st, 1919, he noticed a small sore on the right side of the neck, after shaving. This increased in size and was accompanied by swelling. He did not feel sick and had no pain, but consulted a physician on the 3rd. The doctor cauterized the sore with iodin and carbolic. The following day the sore had increased and the swelling was immense. The physician made a tentative diagnosis of anthrax and sent him to the hospital March 4th.

Temperature, 99.4; pulse, 90; respirations, 26.

Examination: Showed a well-nourished man. Chest and abdomen negative. Head in region of right neck swollen and red, tense and brawny—not sharply outlined. Glands enlarged and of a stony hardness. In the submaxillary region was a depressed brownish scab about the size of a dime, encircled by a pustular ring, the epidermis being raised and filled with yellowish serum. A smear was taken and anthrax bacilli were found.

The patient was immediately etherized and the entire pustule was dissected out and the base seared with the actual cautery(hot iron). Anthrax serum was not administered because there was none at the hospital and it was difficult to obtain. Finally some was located (on the next day) and was sent for.

March 5th, 1919—Dressed. No marked discharge. Swelling of neck less tense and diminishing. The patient said that early in the morning he had a choking spell on coughing, but now was comfortable. Breathing normal. There was no apparent edema of the throat. He was placed in a sitting-up position and was given inhalations.

In calling at the hospital that evening, to consult with the laryngologist and also to administer the serum, the nurse in charge called up and said the patient was dying. On hurrying to the patient, I found that he had just expired. The nurse said that the patient had a paroxysm of coughing, suddenly turned black and died. No autopsy.

The shaving brush was an old one and had been in constant use. Infection was probably due to the hair and bristles used by the patient in his work. In fact, the Board of Health found positive cultures from both of them.

Cultures from both scabs showed that characteristic spore-bearing bacilli of anthrax.

Blood culture of this latter patient's blood was also positive for anthrax. The blood picture was an increase in the white blood cells and also of the polymorphonuclears.

Femoral Aneurism.

Robert F. Barber, M. D.

Dr. William B. Brinsmade:

"I would like to say just a word on that case of aneurism, which reminds me of one of the positive laws laid down by the French Surgical Service, namely, that there should be no amputation for aneurism primarily. There were so many cases where the collateral circulation had been established that this positive rule was laid down."

Thrombosis of Superior Mesenteric Artery.

Robert F. Barber, M.D.

Dr. Frederic C. Paffard:

"I would like to ask Dr. Barber whether in his case there was a very considerable degree of pain. In a case which I reported last year and which was operated on in St. Peter's Hospital, the abdominal pain was very much greater in this mesenteric thrombosis than any other acute abdominal condition I have ever seen. The patient was simply wild with pain. It came on very suddenly, and she had a good deal more pain than any condition I have ever seen.

Medical Book News

BOOK REVIEW SUPPLEMENT TO THE *LONG ISLAND MEDICAL JOURNAL*

Edited by JAMES M. WINFIELD, M.D.

All communications, books for review, etc., should be addressed to the Editor of this Department, 1313 Bedford Ave., Brooklyn, New York

1920, No. 5 JUNE, 1920 3 PAGES

SURGICAL SHOCK.

SURGICAL SHOCK AND THE SHOCKLESS OPERATION THROUGH ANOCI-ASSOCIATION. By George W. Crile, M. D., and William E. Lower, M. D. Second Edition of "Anoci-Association," thoroughly revised and rewritten. Edited by Amy F. Rowland, B. D. Phila. & London, W. B. Saunders Company, 1920. 272 pages with 75 illustrations. 8vo. Cloth, $5.00.

This is the second edition of Anoci-Association reviewed in these columns six years ago. The term has since been shortened to "Anociation." Since the publication of the last edition much evidence corroborating fundamental principles have accumulated.

The present volume may be roughly divided into two parts. The first four chapters deal with the Kinetic Theory, cause and pathology, the clinical phenomena and treatment of surgical shock. The following chapters deal in the main with anociation, the general technic and the practical application of these principles in connection with abdominal and other operations.

In connection with critical abdominal operations there is evidence in the case of Perforating Gun-shot Wounds received in war, that the application of the Crile technic has reduced mortality from about 50 per cent to less than 30 per cent. The comparative series above alluded to were performed at the same Casualty Clearing Station, the patients were similar in type, the distance from the place in the fighting line where each was wounded was approximately the same and the anesthetic in each case was administered by the same anesthetist.

Anociation is a very valuable principle. One must not neglect to give due credit to careful handling of the tissues, and sharp dissection with minimum trauma. It is no doubt due in part to the observance of these precautions that Crile's technic shows such good results.

Crile's anocation may become a popular routine in some clinics, but in the majority it will be used only in selected instances in which it is desired to reduce shock to a minimum, when the margin of safety is narrow. No doubt the teaching of this book will tend to produce better results in the manner of performing surgical operations.

R. H. FOWLER.

REGIONAL ANESTHESIA.

REGIONAL ANESTHESIA (Victor Pauchet's Technique). By B. Sherwood-Dunn, M. D., Philadelphia, F. A. Davis Company, 1920. 294 pages. 224 Figures in the Text. 8vo. Cloth, $3.50.

This book constitutes a résumé of the work of Victor Pauchet with that of P. Sourdat and J. Labouré. The manuscript was revised and amplified by Pauchet, himself.

One is amazed at the magnitude of the operations performed in this way without any general anaesthesia. Intestinal obstruction, total extirpation of the rectum, mastoidectomy, strumectomy, etc., are described in detail.

Minute directions, illustrated by clear cuts, make the method seem easy if sufficient time and practice are first given to learn it.

HENRY F. GRAHAM.

MANUAL OF PHYSIOLOGICAL CHEMISTRY.

A LABORATORY MANUAL OF PHYSIOLOGICAL CHEMISTRY. By Elbert W. Rockwood, M. D., Ph. D. Fourth Edition, revised and enlarged. Philadelphia, F. A. Davis Company, 1919. 316 pages. 12mo. Cloth, $2.00.

As the title indicates this book of 316 pages is intended as a laboratory guide for classes in physiological chemistry and includes much that is usually called clinical chemistry or methods used in diagnosis. In addition to this there is considerable descriptive matter preceding the description of the tests or experiments.

The selection of subjects appears to the reviewer to be judicious and covers more ground than can be covered in the time usually given to this subject in most medical schools. This can not be considered as a serious fault, because the instructor can always use his choice of the work to be done by his class.

The quantitative methods include all those clinical methods usually employed in diagnostic work such as those used in the examination of the gastric juice, milk, blood and urine, rather than the more complicated methods of research work. The author has included the system of blood analysis of Folin and his co-workers and some of Van Slyke's method, which are scarcely to be worked in the class method. The book has been brought up to date and is a good book of reference for those physicians who wish a handy manual to guide them in such work. The reviewer has noted but few errors and can recommend it.

DISEASES OF WOMEN.

DISEASES OF WOMEN, INCLUDING ABNORMALITIES OF PREGNANCY, LABOR, AND PUERPERIUM. A Clinical Study of Pathological Conditions Characteristic of the Five Periods of Woman's Life. Presented in 173 Case Histories. Charles M. Green, A. B., M. D. Second Edition. Boston, W. M. Leonard. 1920. 466 pages and index. Plates. 8vo.

This work following a series that comes to us from Boston, is in very different form from the classical text-books on gynecology; it seems like, and is, a number of case reports arranged in an orderly manner. The minutiae of diagnosis and pathology, and the details of operative technic are omitted, thereby making it an excellent work for the general practitioner. By means of the table of contents and the index, the cases are easily run down in reference. The descriptions are not always so classical as to make us suspicious of the accuracy, or to render them impractical for assistance. While many of the methods of diagnosis and treatment might be subjected to debate by specialists, the work comes from the hand of a teacher, and lays out the work for the student as an authority believes it should be done. Arranged in this way it apparently overcomes the positive method of didactic teaching. Evidently not for the gynecological surgeon, this is an admirable book for the general medical library. E. B.

INFANT FEEDING.

PRINCIPLES AND PRACTICE OF INFANT FEEDING. By Julius H. Hess, M. D. Second Revised Edition, Philadelphia, F. A. Davis Company, 1919. 343 pages. Illustrated. 12mo. Cloth, $2.50.

The author has condensed into a small compass a remarkably comprehensive consideration of this extremely important subject.

This second edition differs from the first in that the caloric method of satisfying the requirements of the infant is followed.

There are four parts in the text namely on General Considerations, The Nursing, Artificial Feeding, and Nutritional Disturbances in Artificially Fed Infants, followed wih an Appendix.

The arrangement is simple and easily followed, the style clear and not at all complicated, thus making the work one pleasing and not difficult to grasp.

Its condensed form makes it an ideal guide as well as for the teacher of pediatrics as the student, for both of whom it is intended.

The writer's methods and views are plain and common sense in their nature and cannot help but be of great service to both the specialist in children's diseases and the general practitioner, who, after all bears the greater part of the burden of feeding children from birth to puberty. Dr. Hess is to be congratulated upon having presented to the medical profession a treatise which must go far towards the standardization and simplification of infant feeding. W. H. DONNELLY.

MANUAL OF FIRST AID.

A MANUAL OF FIRST AID IN ACCIDENT AND DISEASE. By Edward L. Gainsburgh, M. D. New York, Stearns & Bale, 1919. 8vo. 84 pages. Illustrated. Cloth $1.50.

The author intends this book to be extremely practical, and with this object in view he has omitted much of the anatomy and physicology usually found in first aid books, and has given attention to quite a few common medical conditions which the average layman is apt to encounter.

As the author states, he has freedrawn from several of the classic first aid manuals in his description of surgical treatment, therefore, in these particular subjects there is nothing new in this volume. The discussion of medical affections such as Tonsillitis, Quinsy, Indigestion, Colic, Appendicitis, and similar conditions is brief but practical and should prove valuable to those for whom this book is intended.

BOOKS RECEIVED.

Books received for review are acknowledged promptly in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases review notices will be promptly published shortly after acknowledgment of receipt has been made in this column.

HANDBOOK OF DISEASES OF THE RECTUM. By Louis J. Hirschman, M. D., F. A. C. S. Third Edition, revised and rewritten. St. Louis, C. V. Mosby Company, 1920. 378 pages. Illustrated. Plates. 8vo. Cloth, $5.00.

PERSONAL BEAUTY AND RACIAL BETTERMENT. By Knight Dunlap, Professor of Experimental Psychology in the Johns Hopkins University. St. Louis, C. V. Mosby Company, 1920. 95 pages. 12mo. Cloth, $1.00.

SEX ATTRACTION. A Lecture given at the Michigan State Normal School, July, 1919. By Victor C. Vaughan, M. D., LL. D. St. Louis, C. V. Mosby Company, 1920. 44 pages. 16mo. Paper, 50 cents.

DISEASES OF THE CHEST AND THE PRINCIPLES OF PHYSICAL DIAGNOSIS. By George William Norris, A. B., M. D., and Henry R. M. Landis, A. B., and M. D. Second Edition, revised. Phila. & London, W. B. Saunders Company, 1920. 844 pages with 433 illustrations. 8vo. Cloth, $8.00.

A TEXT-BOOK OF PHYSIOLOGY FOR STUDENTS AND PRACTITIONERS OF MEDICINE. By Russell Burton-Opitz, S. M., M. D., Ph. D. Phila. & London, W. B. Saunders Company, 1920. 1185 pages with 538 illustrations. 8vo. Cloth, $7.50.

SEXUAL IMPOTENCE. By Victor G. Vecki, M. D. Sixth Edition, revised. Phila. & London, W.

B. Saunders Company, 1920. 424 pages. 12mo. Cloth, $3.00.

SURGICAL SHOCK AND THE SHOCKLESS OPERATION THROUGH ANOCI-ASSOCIATION. By George W. Crile, M. D., and William E. Lower, M. D. Second Edition of "Anoci-Association," thoroughly revised and rewritten. Edited by Amy F. Rowland, B. D. Phila. & London, W. B. Saunders Company, 1920. 272 pages with 75 illustrations. 8vo. Cloth, $5.00.

PASTEUR; THE HISTORY OF A MIND. By Emile Duclaux. Translated by Erwin F. Smith and Florence Hedges, Pathologists of the U. S. Department of Agriculture. Phila. & London, W. B. Saunders Company, 1920. 363 pages. Illustrated. 8vo. Cloth, $5.00.

VAGOTONIA; A CLINICAL STUDY IN VEGETATIVE NEUROLOGY. By Dr. Hans Eppinger and Dr. Leo Hess. Authorized translation by Walter M. Kraus, A. M., M. D., and Smith Ely Jelliffe, M. D., Ph. D. Second revised and corrected Edition. New York, Nervous & Mental Disease Publishing Co., 1917. 93 pages. Illustrated. 8vo. Paper, $1.00.

MODERN SPIRITISM; ITS SCIENCE AND RELIGION. By A. T. Schofield, M. D. Philadelphia, P. Blakiston's Son & Co., 1920. 259 pages. 12mo. Paper $1.25.

A MANUAL ON FOOT CARE AND SHOE FITTING FOR OFFICERS OF THE U. S. NAVY AND U. S. MARINE CORPS. By W. L. Mann, Ph. B., A. M., M. D., and S. A. Folsom, M. D. Philadelphia, P. Blakiston's Son & Co., 124 pages. 58 Illustrations. 12mo. Cloth, $1.75.

A MANUAL OF FIRST AID IN ACCIDENT AND DISEASE. By Edward L. Gainsburgh, M. D. New York, Stearns & eBale, 1919. 8vo. 84 pages. Illustrated. Cloth, $1.50.

VITAL STATISTICS; AN INTRODUCTION TO THE SCIENCE OF DEMOGRAPHY. By George Chandler Whipple, Professor of Sanitary Engineering in Harvard University. New York, John Wiley & Sons, Inc., 1919. 517 pages. Illustrated. 12mo. Cloth, $4.00.

FOOD INSPECTION AND ANALYSIS for the Use of Public Analysts, Health Officers, Sanitary Chemists, and Food Economists. By Albert E. Leach, S. B. Revised and Enlarged by Andrew L. Winton, Ph. D. Fourth Edition. New York, John Wiley & Sons, Inc., 1920. 1090 pages. Illustrated. Plates. 8vo. Cloth, $8.50.

ARTERIOSCLEROSIS AND HYPERTENSION WITH CHAPTERS ON BLOOD PRESSURE. By Louis M. Warfield, A. B., M. D., F. A. C. P. Third Edition. St. Louis, C. V. Mosby Company, 1920. 265 pages. Illustrated. 8vo. Cloth, $4.00.

THE AFTER-TREATMENT OF SURGICAL PATIENTS. By Williard Bartlett, A. M., M. D., F. A. C. S., and Collaborators. St. Louis, C. V. Mosby Company, 1920. 2 vols. 1066 pages. 435 Illustrations. 8vo. Cloth, $10.00.

A NURSE'S HANDBOOK OF OBSTETRICS. By Joseph Brown Cooke, M. D. Ninth Edition, revised and enlarged by Carolyn E. Gray, R. N., and Philip F. Williams, M. D. Phila. & London, J. B. Lippincott Co., (1920). 468 pages. Illustrated. 12mo. Cloth, $3.00.

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SPINA BIFIDA.

Arthur H. Bogart, M. D., F. A. C. S.

Brooklyn, New York.

V. H. age two days, was referred to the writer for examination and possible operation. Examination showed a tumor in the lumbar region which was about one and a half inches in diameter, cystic in character and almost transparent. Apparently there was paralysis of the sphincters and of the lower extremities, the process of ulceration had already begun and it was evident that unless some attempt was made to remedy the condition the tumor would rupture and become infected resulting in a fatal termination of the case.

The outlook in the case was explained to the family and they requested that operation be done.

On November 11th under light ether anaesthesia the sac was excised and the underlying muscles and fascia drawn together and the skin closed over this making a double line of suture. The opening in the canal was found to be a small one, and there were no nerve ends in the wall of the sack. The patient suffered some shock from the operation but promptly recovered and went on to a complete recovery, the wound healing by first intention.

Spina bifida is a congenital condition occurring once in aboout one thousand births, and is due to the failure of one or more of the neural arches to close leaving a defect through which we have a protrusion of a hernial sac formed by some of the spinal membranes with or without cord or nerve roots.

It is usual to divide these cases into three forms. 1st. The meningoceles in which there is a protrusion of the arachnoid in which fluid collects, the pedicle is slender and the overlying skin normal.

2nd. Myleomeningoceles having a sac with a wide base and containing nerve roots and the cauda equina which is usually attached to and spread out over the surface of the sac.

3rd. The so-called myelocystoceles in which the fluid accumulates in the central canal distending it and causing atrophy of the nerves. It is in this variety that other deformities such as club foot etc., are most frequently found.

The prognosis in these cases is usually unfavorable. This is particularly true in those cases with a thin walled sac which even with the best of care is prone to ulceration, perforation, and infection. Therefore if there is any hope for such cases at all it lies in immediate operation in order to close the defect and prevent these complications.

As to the time of operation we believe it should be done early before infection has taken place. In those cases in which there is a thick covering of skin and show but very little tendency to enlarge operation is not advisable.

At the present time operation is the usual treatment advised in these cases. As to the operability of any case that question can only be determined after an examination and study of the case. In the cases with beginning ulceration and a thin walled sac operation offers the only hope and should always be considered.

If paralysis of the sphincters and lower extremities are present and due to a fetal defect in the cord operation will not relieve this condition. The paralysis may be due to pressure however which accounts for some of the cures which have been reported.

In operating upon this unfavorable class of cases the quickest and simplest technic should be employed; any time consuming or mutilating operation having for its object the closing of the defect by bone flaps or otherwise is I think to be condemned; therefore the opening in the canal should be closed by a flap of muscle and fascia and reinforced by the skin flap. If necessary lateral incisions may be made to facilitate closure. Further and more extensive operative measure that the above are not necessary. It is very difficult and time consuming to attempt to dissect out nerve roots which are found in the wall of the sack and if necessary they may be inverted with the sack wall to which they are attached.

The primary mortality from operations for this condition is about 25% and of those that recover some will die within the next few months from other causes.

The high mortality should not deter the surgeon from making attempts at surgical relief. On the other hand the prognosis should not be too hopeful of relief particularly if paralysis is present as but few cases are reported in which these conditions are cured or even improved.

Without operation most of these cases die early; that is within the first few weeks from ulceration and rupture followed by infection. Early operation will prevent this in many cases and about fifty per cent may be expected to recover with or without paralysis depending upon the nature of the case. At the end of eight months the family physician, Dr. Gallagher, reports this case to be cured of the spina bifida, but there has been no improvement in the paralysis of the lower extremities which was noted at the time of operation.

THE DIAGNOSIS OF INTERNAL CANCER.

Otto V. Huffman, M. D.

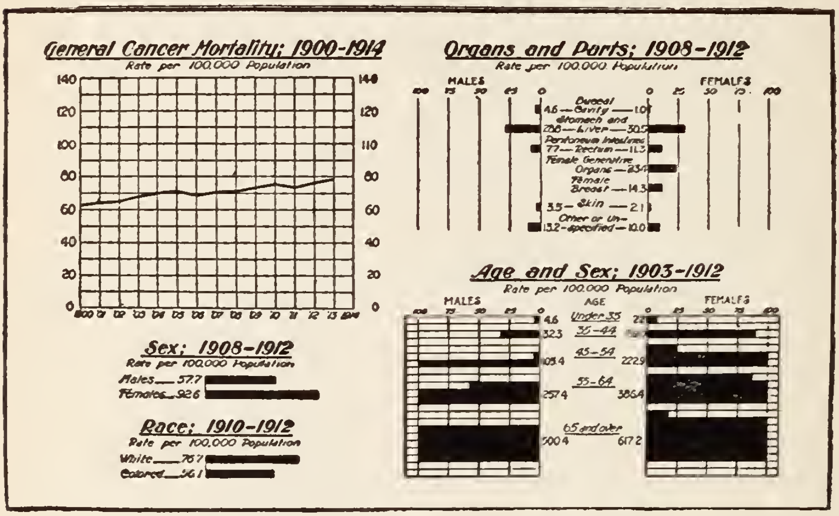
New York City.

A MAN with an internal cancer may not have any complaints during its early stages. Professor Murray, at the Hoagland Laboratory, has two specimens of cancer of the stomach which were not suspected during the life of the patients because they had not as yet produced recognizable symptoms. Yet it is at the early stage that cancer must be diagnosed, if the patient is to be cured, that is, the cancer must be recognized before it has invaded inaccessible parts of the body. It is the early primary cancer that we must diagnose.

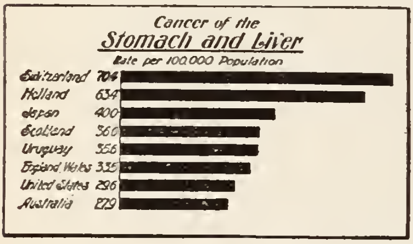
The fact that one person out of every ten over forty years of age dies of cancer is evidence of the importance of this subject. Cancer is curable if taken in time but most of the cases referred to surgeons or the hospitals have been allowed to run into an advanced and inoperable stage. In other words the diagnosis has been made too late. This should cause us to try to get a better understanding of the signs and symptoms of internal cancer and this is one of the reasons for forming the American Society for the control of Cancer, under whose auspices this meeting this evening is conducted.

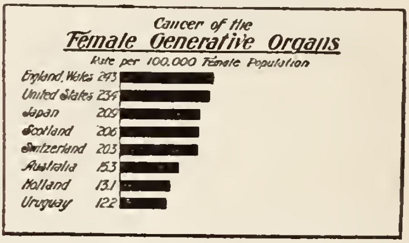
An internal cancer is a lawless growth of epithelial cells or of part of the mucosa. Such a growth may arise in the lining membrane of any part of the respiratory tract or of the alimentary tract. Primary cancer within the chest originates then in some part of the bronchial tree or in the oesophagus. Primary cancer within the abdomen originates in some part of the digestive system. It is possible for a cancer to arise from the epithelium of the kidney but this is very rare owing, doubtless, to its having a different embryological origin from that of the digestive system. There is nothing about the lawless growth in itself to attract our attention, that is, there is nothing peculiar to the symptoms caused by a cancer inasmuch as they may be caused by other pathologic processes. The signs or symptoms are due (1) to partial obstruction of a passage by the tumor, (2) to necrosis and ulceration, (3) to inflammation of the peritoneum or the pleura, (4) to loss of function in whole or in part of the particular organ involved, and (5) to toxines associated with the growth of cancer. Obstruction may be caused by other kinds of tumor, as those springing from connective tissue, fat, muscle or endothelium; by pressure of an aneurism; by a foreign body; by cysts; or by inflammatory products, especially those of tuberculosis or of syphilis. Necrosis and ulceration may occur in a great many other conditions as well as in cancer; or the cancer itself may have started at the edge of an old ulcer—peptic, syphilitic or tuberculous. When the cancerous growth involves the peritoneum or the pleura it sets up a mild inflammatory reaction followed either by adhesions or considerable exudation of serum. There is nothing distinctive about the loss of function caused by cancer—there is a loss of function in the disease, achylia gastrica, and there may be a partial loss of function such as interference with the motility of the stomach or intestinal wall in other conditions as well as in cancer. The toxines associated with the growth of a cancer eventually cause loss of weight, loss of appetite—especially a repugnance for meat, and weakness. These symptoms may appear even though the cancer is not in the gastro-intestinal tract. However, these and a secondary anaemia somewhat like that of lead poisoning are really late symptoms. It is the hemolytic effect of the toxines and the freeing of blood pigment that causes the lemon tint to the skin. Ewing cites the observations that the blood may even appear richer in quality and that in some cases it is not altered. To catalogue all of the diseases or conditions that might have to be differentiated would take us far afield and would center our attention too much on advanced cancer. To diagnose internal cancer early we must not wait for such symptoms as "coffee ground" vomitus, or pain, or hemorrhage, or palpable tumor, or foul odor, or cachexia; and we ought to discard that old table of differentiation between gastric cancer and peptic ulcer for persons past thirty-five years of age. Because on the one hand, a simple peptic ulcer may lead to cancer in middle life,—while on the other hand, a cancer may ulcerate and give all the classical symptoms of peptic ulcer. In either case the patient should be turned over to the surgeon. A man in middle life has "no business" with an ulcer in his stomach.

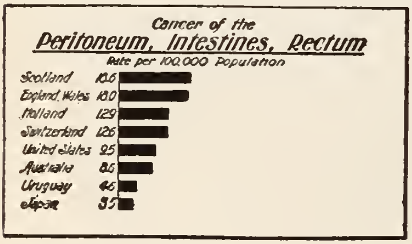
Cancer Mortality — United States Registration Area

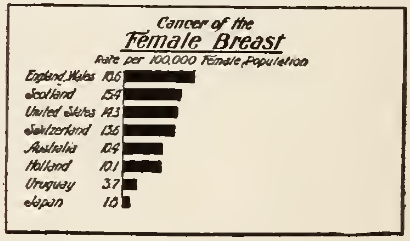


Cancer Mortality by Organs and Parts, 1908—1912



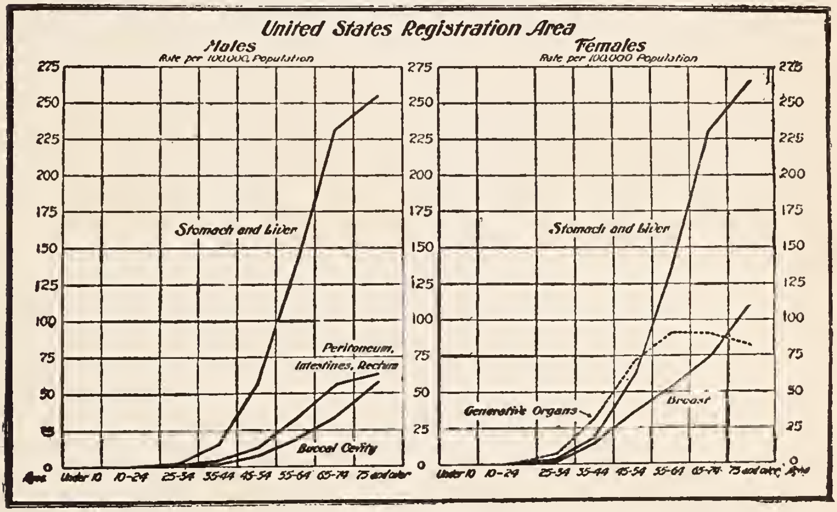






We need some such test as that suggested by Abderhalden's dialysis procedure which would afford absolute proof of the existence of a cancer,—then we could make a very early diagnosis. In lieu of such a test we are obliged to resort to circumstantial evidence. While this may seem discouraging, it is remarkable how early cancer may be recognized by a correct interpretation of the history, of the signs, symptoms and special tests in a given case. In medicine, just as in law, circumstantial evidence has its weight. We must be as careful and as exact as possible but we must not emulate the proverbial slowness of the law if we are to benefit our patients. I repeat, it is absolutely necessary to make the diagnosis early. If you want to save your patient you must act quickly. Cancer is curable if taken in time.

Cancer Mortality by Age and Organs or Parts, 1903—1912



The above charts are based on mortality statistics and it should be kept in mind that the age for the early diagnosis of internal cancer precedes the mortality age by several years

To diagnose cancer early it is not possible to await the development of any of those old familiar signs or symptoms which are really secondary to obstruction, ulceration, necrosis, inflammation or toxemia. How shall we diagnose it then? The answer is:—By keeping in mind certain clinical pictures and by making thorough examinations. A patient previously in good health and about thirty-nine years of age comes complaining of dyspepsia or a feeling of distress after eating, and we observe perhaps that his clothes hang somewhat loosely upon him because he has lost weight. We take a careful history and make a thorough examination. We are not satisfied to simply record that he has epigastric pain. We try to visualize how this pain is produced and how it is referred to the epigastrium. MacKenzie's theory of visceral pain and of Head's zones guides us in making a careful investigation of all the related organs. This would naturally bring to mind the gastric crisis of tabes dorsalis and a host of other conditions. The more we try to visualize the pathologic process causing this symptom, pain, whether it is peristaltic unrest trying to overcome an obstruction or produced reflexly from irritation of an ulcer or what not, the more anxious we become to get the help of an X-ray examination; because by the newer methods in X-ray examination, it is now possible to detect signs of a tumor very early. The changes in position, in outline, in peristalsis, in motility, and in mobility of the stomach may point to a cancer, to a syphilitic ulcer or to adhesions. Further curiosity makes us wish to know what kind of gastric juice is produced by that stomach and whether there is any ooze of blood serum. The test meal and gastric analysis might show a diminution in the quantity of free hydrochloric acid and the presence of occult blood pigment or of blood serum which had oozed from an ulcer or cancer. However there is nothing absolutely conclusive about the findings of a test meal because they may be normal or they may be those of hyperacidity and ulceration along with cancer. Einhorn has reported cases of cancer with hyperacidity and according to Kemp it is the practice at the Mayo Clinic to advise a patient in middle life, who comes complaining of an exacerbation of gastric symptoms on top of a history of an old ulcer or former ulcer, to be operated upon because Wilson and McCarty have found cancer even simply at the edge of many of these ulcers. Professor MacCallum, when at the College of Physicians and Surgeons, reported finding cancer at the edge of typical round ulcers in two cases. Even with no other symptoms then, than the loss of weight and epigastric distress in a patient whose previous health has been good, we have a clinical picture that suggests cancer. Let us not forget that one in ten persons past forty years of age dies of cancer and that 38 per cent of all deaths due to cancer are due to cancer of the stomach. A thorough X-ray examination should be made, especially the fluoroscopic examination during and after the administration of an opaque meal. Abnormal currents, abnormal peristalsis, abnormal contour, filling defects, retention after six hours, and immobility of the stomach on shifting the posture of the patient all point to the pathologic processes of cancer. Several X-ray plates should be made; retention should be looked for at the end of six, twelve and twenty-four hours. In the course of this thorough examination equal attention is devoted to a study of the heart, lungs, gall-bladder and the bowel. If all are negative including the test meal, but the patient continues to lose weight after his diet, constipation and psychic factors have been corrected by general hygenic measures we must recommend laparatomy. The operation is justified even though the exploration reveals a simple ulcer, gall stones, or adhesions; and the recommending of operashould not be delayed more than a month, that is, not more than a month should be used to try to overcome the loss of appetite and the loss of weight. Also it is not advisable to delay recommending operation in such a case more than a month because of a positive Wassermann test. Syphilitic ulcers or gummata are rare, they respond quickly to treatment and then too, they may be at the basis of a cancer. It should not be forgotten that from 10 to 25 per cent of patients in hospitals give a positive Wassermann;—at St. Luke's Hospital about 10 per cent; at Bellevue about 25 per cent.

Another clinical picture is that of a man or woman 40 years of age who comes complaining of abdominal distress, flatulence or diarrhoea and reports loss of weight. Here cancer of the bowel should be suspected. Besides making the general thorough examination of the various organs of the body, the bowel is carefully studied by X-ray methods. If there is a filling defect, operation should be advised even though there is the possibility of finding that the mass is due to inflammatory tissue surrounding a fish-bone or to a peridiverticulitis. These too, need surgical relief.

The third clinical picture is that of a patient who comes complaining of hemorrhoids for the first time when about 40 years of age. Do not forget that 6 out of 10 cancers of the rectum are first diagnosed as hemorrhoids. Here digital and proctoscopic examination soon tell the tale.

Cancer of the oesophagus may be recognized early enough to be cut out and leave an intact oesophagus. The patient complains of pain under the sternum after swallowing, or drinks water to assist the swallowing of solid food. Here tubes, bougies, the X-ray and the esophagoscope are aids to diagnosis. In the case of the lungs, the pleura, the liver and the pancreas it is not possible to make the diagnosis early and furthermore it is not possible to eradicate it from these organs. Cancer of a bronchus has been diagnosed by bronchoscopy and theoretically it should be possible to reach some cancers here while still small and simply causing persistent cough and loss of weight in a man otherwise healthy. Most of the cancers of the lungs and pleura which we see are secondary to cancer of the stomach. Most of the cancers of the liver are secondary to cancer of the bowel.

The suspected patient in any case should have the benefit of:

1. A test-breakfast and gastric analysis: According to Smithies and the Mayo experience the free hydrochloric acid is diminished in quantity or absent in about 85 per cent of the cases of gastric cancer. The Rehfuss fractional analysis of gastric secretion and the examination for occult blood both in the expressed gastric contents and in the feces should be done. The Salomen and the Wolf-Junghans tests for serum albumen should be made. Vomitus should always be examined; blood, debris of retention, lactic acid, and Boas-Oppler bacilli although evidence of advanced cancer naturally are of interest in making the diagnosis of advanced cancer. The feces should be examined too; blood, pus, necrotic material—all may be of help in recognizing cancer but we must not think of these as early signs.

2. A complete X-ray study especially, the fluoroscopic examination following an opaque meal or an opaque enema.

3. An exploratory operation if there is no restoration of health at the end of one month of symptomatic treatment inasmuch as the alternatives from which cancer should be differentiated require operation as well and because as soon as the diagnosis would be absolutely certain it is too late to operate.

IMPOTENCE IN THE MALE.*

Augustus Harris, M. D.

Brooklyn, New York.

THE subject of sex impotence is of tremendous and far-reaching importance. Broken engagement, annulment of marriage and even suicide have followed in its wake. While the condition is one of relative frequency it is apparently one which is not well understood. In spite of the large amount of experimental and clinical work recorded in literature, there is considerable room for progress in this field. During the past decade nothing has been added to the treatment which is of any practical value.

The writer has based his observations upon the review of some forty private cases most of which were treated during the past two years. He has been unable to follow up clinical cases satisfactorily.

The word impotence means inability to copulate and should not be confused with the world sterility. It involves both the acts of erection and ejaculation. Erection takes place when the small arteries supplied by the nerves errigentes from the sacral nerves dilate allowing the cavernous spaces of the corpora to become engorged with blood. The force of this is increased by the partial occlusion of the venous return. It is essentially a reflex act occurring through the lumbar centre in the spinal cord. This cord centre is influenced in two ways

(1) By the higher centres in the brain.

(2) By the afferent sensory nerve impulses from the region of the genitals.

In dogs the act may be effected either by stimulation of the brain centre, or in animals whose cord has been divided above the lumbar segment. It is obviously a complex mechanism. With **ejaculation** the tissue of the verumontanum becomes swollen and the combined secretions of the vesicles, prostate and ducts is forcibly ejected by rhythmic contraction of the ischio and bulbocavernosus muscles. It is therefore easy to understand how suggestion and certain mental states have a considerable influence over this mechanism.

There is a form of impotence which we call *psychic.* Fear, fright, disgust or other emotions are known to exert their influence. Young readers of quack literature are not uncommonly affected. The newly married fearing that they may be weak. Some individuals are capable of function with some females and not with others. This is called relative impotance. The psychic form is said to be the most frequent, but I believe that in the majority of those consulting the physician the mental element is a secondary factor.

Organic impotence includes two types:

(1) Those due to disease of the spinal cord, tales dorsalis and myelitis.

(2) Those due to malformations and disease of external geni-

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* Read before the Brooklyn Urological Society.

tals, e. g. hypospadias, tight frenum, strictured urethra, masses by virtue of their size and varicocele. Proper surgical procedures usually correct these conditions. Rudimentary penis is included in this class and has been treated by suction apparatus. A celebrated case is on record where the penis at twenty-six years was the size of that of an eight year old child. After two years of married life it was known to reach the normal adult size. The writer has observed that in a few cases the penis was distinctly smaller than the normal. Whether this was the result of poor development or secondary to the impaired function exerted over a long period is a matter of conjecture.

Under the title of *Atonic Impotence* are described that large class of cases of partial or complete loss, usually dependent upon excessive venery, prolonged ungratified desire or a previous chronic gonorrhoea. Cases of impaired erection and premature ejaculation from these causes are most frequent. Atonic impotence includes also the rare types due to weak lumbar centres from drugs especially alcohol or opium and from chronic debilitating disease such as anaemia, diabetes, nephritis, etc.

Symptoms: The many and varied forms of nervous symptoms manifested in these cases called "neurasthenia" are familiar to all. To mention a few: feeling of weakness and depression, headaches, poor memory, inability to concentrate, indefinite pains in the back, perineum or testicle. One symptom I have observed to occur with great frequency is sticking, stabbing or aching sensation in one or both groins. Burning on urination, as well as frequency are not uncommon. Prostatorrhoea may appear as an earlier rather than a late symptom. The urine in the absence of a previous attack of gonorrhoea is remarkably clear. Many give a negative history of venereal disease.

Etiology: Most all report some form of abuse either masturbation, excessive intercourse or coitusinterruptus. The two former are the most frequent in young men. Withdrawal exerts its effects gradually and symptoms appear when it is practised for long periods. Prolonged ungratified sexual desire produces the condition less frequently. It is, indeed, fortunate that nature has endowed man with considerable reserve power to withstand abuse. In young men the usual complaint is frequent nocturnal pollutions perhaps one to three times a week. The patient ponders over his trouble and begins to worry, and, for a time is likely to say nothing about it. Later he consults the physician and as the case becomes more advanced, emissions occur seldom or not at all. If these pollutions and abuse continue over long periods, erections become weak and finally lost. Ejaculation may occur without erection. In the married erections are poor and coitus notably short.

In some cases two or more causes act together to produce the condition: e. g. A rather delicate patient of forty-three years who works long hours, exposed to considerable degree of heat as an engineer, recently visited my office for partial impotence. He gave no abuse history but a tight band at the frenum caused some downward pressure on the organ during erection and some discomfort during intercourse. This was neglected for seventeen years until relieved surgically. Another factor is that his wife has had no orgasm for years and seems to be poorly developed sexually. They have two healthy children. The patient is responding well to the usual methods of treatment.

In another case, a widower of thirty years there is no demonstrable cause. He has recently worked for a period of four months for from eighteen to twenty hours a day. There is no abusive story or evidence of organic disease. His previous sex life was apparently normal.

Some of my cases had a co-existing condition of chronic gonorrhoea. In most of them, however, there was some history of sexual excesses. It appears also that in a number excessive instrumentation might have played a part. In one case, a single man of twenty-nine years, apparently cured of the Neisser infection after irregular treatment for three years, there was no history of excesses, no evident disease of posterior urethra. His erections became few and weak. On further study we found that he had been rather weak sexually for over nine years and was the type not attracted by the fair sex. Undoubtedly congenital weakness is also a factor in some cases.

The *prognosis* in a large majority of impotence cases is favorable. The result depends largely upon the duration and degree of symptoms. Younger men do better than those past forty-five years. Several months treatment are usually necessary.

Treatment: To gain the confidence of the paient and to give him as much moral support and reassurance as possible is the first step. A careful detailed history of the sex life and habits of the patient is pre-requisite, e. g., a case of puzzling etiology reported by Huhner was finally cleared up by the examination of the wife who was found to be suffering from vaginismus.

Drugs play a minor part. There is no drug as yet discovered which will in itself restore sexual power. Absolute sexual rest for a few months is indicated in most cases. Tonics for the general health may be of assistance. A certain amount of outdoor exercise is advisable. A liberal diet is in order. Huhner states that tea, coffee, eggs and oysters stimulate the sexual centres and increase emissions. Shower baths, cold plunges and ocean bathing are beneficial. Complete diversion from sex topics is essential. Constipation is to be avoided.

Local treatment is of the greatest value. Gentle massage of the prostrate is healthful. We find in many a soft, boggy more or less tender gland which may or may not contain pus cells. Massage should be done less frequently in excessive emission cases as it may aggravate this symptom.

Passage of sounds presumably decreases local sensitiveness. Posterior instillations of nitrate of silver have their place beginning with five grains to the ounce and ordinarily increasng to twenty-five or thirty grains to the ounce. Thallin Sulphate 2-12% solution has been recommended for the same purpose.

Applications of strong nitrate of silver to the colliculus and posterior uretha (10-20%) often show striking results. In some cases the writer has been unable to demonstrate pathology in the colliculus or posterior uretha, in others the veru appeared normal but the posterior urethra markedly red and sensitive. Dreuw of Berlin reported one hundred and fifty cases over one hundred of which showed marked changes in the colliculus. The examination is facilitated by the use of the cysto-urethroscope.

The writer is inclined to alternate the forms of mechanical treatment mentioned and to treat the veru at less frequent intervals than usually recommended. It is possible to do considerable harm with over treatment, moreover the utmost gentleness should be exercised with the endoscope. The patient should be told of the possible appearance of blood after these sessions. I have hesitated to use the actual cautery to the colliculus, in spite of the good results reported, as I have feared scarring of the veru and consequent after-effects.

Nerve sedatives are helpful in the early treatment of most cases. In the more advanced types without sexual excitability, aphrodisiacs may be of some assistance. Strychnine and Yohimbin are the most popular.

Since the advent of the study of endocrinology the use of glandular preparations has become the fashion (mono and pluriglandular). We are aware that the internal secretion of the testicle is essential to masculinity, but it has not been demonstrated that the preparations of the gland are of any clinical value. We also know that the anterior lobe pituitary gland plays an important part in sex development, e. g., removal of this gland in animals produces marked impairment of sex growth. For this reason extracts of the anterior lobe have also been advocated. In 1917, Stellwagon of Philadelphia reported six cases with excellent results after a few months treatment. The writer is of the opinion that the effects here obtained were largely due to the local treatment and the sexual rest which were given at the same time. I have used this preparation over rather long periods with and without local treatment and have never been convinced that it occupies a place of any importance. Sex gland implantation has not as yet reached the stage of practical application. In a series of five or six cases I have more recently employed the ampoule preparation of the anterior lobe (Antuitrin P. D. & Co.). Injections were given about three a week for several weeks. There was no appreciable difference in the sex power. Most of these were of the more advancd type with erections slight or absent.

I have had no experience with the rectal or urethral psychrophore. Electricity is also recommended. Galvanic, farradic and high frequency currents are used. The writer has employed the D'Arsonval high frequency current through the urethral sound with some satisfaction.

The large majority of my cases have shown good results. A number unfortunately stopped treatment too soon and could not be followed up. I have had four cases which did not improve at all. One of these was a married man of thirty-eight years of good habits. There was no history of sex excesses but his sexual act was always short and the insertion of the organ in the vagina was difficult and forced somewhat to one side. Ejaculations latterly occurred without erection. In this as in others there appeared to be some congenital deficiency.

Every case of impotence must be individualized and it is consequently difficult to outline a fixed form of treatment. Periods of remission during treatment are rather frequent and for this reason it is necessary to reassure patients and to follow cases for rather long periods. I have observed also that damp, stormy or humid weather aggravates the condition and have emphasized the point of keeping the feet dry.

Lydston recommends resection of the dorsal vein of the penis in cases not affected by other treatment. He claims it is successful in half of the cases. This operation is rarely performed.

When the patient is discharged from treatment he should be instructed to live well within his bounds sexually and to return for examination if a recurrencc of symptoms follow.

It is to be hoped by wide and vigorous campaigns on sex education that the functional disorders of sex as well as the incidence of venereal disease will be reduced to a minimum.

HOME PROPHYLAXIS FOR THE PREVENTION OF PYORRHEA AND DECAY.

John L. Kelly, D. M. D.

New York City.

LET a custom once grow gray hairs and long chin whiskers and immediately it becomes in a measure sacrosanct—like the laws of the Medes and Persians, and a certain well-known American's chin. It defies authority, it assumes dictatorship, and even to question its utility smacks of lese majeste. 'Tis thus with that famous institution, the tooth-brush, now used more or less extensively by 8% of the inhabitants of this land—and less frequently by "foreigners."

Yet the tooth-brush is an implement that does much more harm than good—the use of which would be infinitely "more honored in the breach than in the observance."

The Tooth-Brush a Relic of the Dark Ages

I may be heterodox in so acclaiming it, but my experience has led me to the conviction that the tooth-brush is a distinct menace to health—perhaps even to life itself. It is the actual cause of thousands of cases of oral infection—the inoculator of multitudes of pyorrheal conditions.

In this conclusion I am supported by Doctors Smale and Jones (British Medical Journal, 1910) who have proved that a tooth-brush becomes septic after being used even once.

"Each bristle" they say, "becomes an inoculating needle. The person using it may be vaccinated with such germs as flourish upon it." This coincides with the opinion of hundreds of astute observers who have found that the bristle points wound the gum structures, and permit myriads of microbes to gain entrance into the delicate membranes of the gums.

I am bitterly opposed to the tooth-brush, and I think everyone would be if he knew what an absolutely absurd and useless treatment it really is. It does none of the things claimed for it. It neither cleanses the mouth nor polishes the teeth. It is more than useless, it is actually dangerous. For it injures the gums by cutting them and is the source of serious infection at times.

How Mouth Infections Originate

Mouth infection in itself arises from only two diseases, pyorrhea and decay. Both of these diseases are slow in developing, and both respond to local treatment, proving that the cause of pyorrhea and decay is not difficult to locate. This cause is foreign matter accumulating on and around the teeth.

This foreign matter is a mixture of the food we eat and the secretions of the mouth, nose, and throat. When allowed to remain for long periods of time on and around the teeth it acts as an irritant, causing irritation, inflammation and suppuration of the soft tissues, decay of the teeth, and the breaking down of the alveolar processes, resulting in mouth infection.

Teeth decay only at those places that are not kept clean. These are the hidden and rough surfaces on the occlusion or tops of the back teeth, at the contact point, or where one tooth touches another, and around the gingival border or at the necks of the teeth.

The germs that cause decay, lodge at these three places and excrete a gelatinous substance called mucous plaque. This envelopes or covers the teeth, acting as a wall of protection against food or other material that might dislodge them. Under this protection the germs grow and develop, until finally they force their way between the enamel rods into the dentine. This dentine has much less resisting power than the enamel, and beside it is a food for the germs upon which they thrive. Eventually the germs destroy this dentine, undermining the thin enamel wall, until the center or heart of the teeth is reached, when the nerve becomes exposed. Any slight pressure of food against this exposed nerve wall causes pain or tooth-ache. And tooth-ache is as Burns said "The hell of all diseases."

The Calamity Howling Toothache

Toothache is a calamity, because with the knowledge we have today of the results that generally follow the treating and filling of a tooth in which the nerve has been exposed, it is evident that the only safe procedure to follow is to extract the tooth. This is advisable because in nine chances out of ten this exposed nerve or pulp is already infected.

Infection means that the dangerous germs which are always present in the mouth have worked their way through the cavity in the tooth to the exposed pulp or nerve and have become invigorated by this new food (fresh blood) of the pulp, and thereby have taken on new activity, causing destruction of the pulp and the death of the tooth. When the death of the tooth has been accomplished these germs have free passage within the tooth root to the apex or end of the root, where they set up new colonies of their own species, and continue the destruction of the tissues at the root apex, causing what is called an "abscess."

If the dead tooth with the abscess is allowed to remain the germs which continue to multiply finally seek new fields, and like humans, war for the survival of the fittest. The stronger and more virile float down the blood-stream, exploring new fields, until they finally reach the most vulnerable part of the heart, the valves. Here they start new colonies and multiply, impairing and finally destroying the integrity of the heart valves, causing "heart disease."

Some of the germs travel on to the joints, setting up colonies, and causing arthritis. Some proceed to the muscles and joints, causing rheumatism, and others to various other parts of the body, causing destruction and disease throughout that course.

HOW PYORRHEA ORIGINATES

Besides working their way through the cavity of a decayed tooth into the pulp and then into the system, numerous germs find another gateway from the filthy mouth to the body. When they have multiplied beyond a certain number, they penetrate the tissues of the gingival border neck of the teeth. This locality becomes favorable to their growth, because the tissues at this point are weakened, due to foreign matter being allowed to remain around the necks for long periods of time undisturbed. This foreign matter when neglected at the necks of the teeth, causes irritation, followed by inflammation, and then by suppuration or pus. This condition is called pyorrhea.

In other words, pyorrhea is an irritation of the gum margin around the necks of the teeth. Bleeding of the gums is the first symptom of this irritation—the first stage of pyorrhea; pus at the gum margin is the second stage; and loosening of the teeth is the last stage.

Some people are more subject to pyorrhea than others, just as some people are more susceptible to indigestion, skin eruptions, etc., than others, because stomachs, skin and mouths vary with different individuals in their resisting powers to foreign invasion. Continued abuse, however, even of the strongest stomach, the hardest skin, etc., will cause them to give way, while on the other hand those with weak stomachs, delicate skins and gums may, by intelligent and systematic care, overcome the effects of inherited tendency to a great extent. Especially is this so with the teeth and gums.

The teeth and gums have greater resisting powers than any other part of the body. But inasmuch as they are in that part of the body most abused and most neglected, they are most often diseased, and often the source of disease in other parts of the body. This is all due to ignorance of the care of the teeth.

ONLY ONE EFFECTIVE WAY TO CLEAN TEETH

After years of research and experimentation the only treatment that has been found effective in the treatment of pyorrhea and decay, as well as its prevention, is the cleaning of the mouth and the polishing of the teeth.

Unfortunately the public is as lazy as it dares to be, and in the case of the mouth and teeth, this laziness is fostered by ignorance. It is not only necessary to dispell ignorance, and light the path in the right direction, but in regard to the preservation of the teeth it is often necessary to force the average individual, by argument and example, or by his own suffering, to make repeated efforts, until at last the habit is formed.

Man has the habit handed down for centuries of washing his hands, face, and feet, and occasionally of taking a bath. Yet all these combined are not nearly so important as the proper cleaning of the mouth and the polishing of the teeth.

Now, the dental profession for years has realized the importance of cleaning the mouth and polishing the teeth. But dentists have bent their energies in another direction—that of filling, crowning and bridging, or reparative work, for the simple reason that this reparative work is more interesting to the dentist and more appreciated by the public. It also demands better pay.

The Dental Hygienist To The Rescue

Yet the public is now beginning to realize that this reparative work is not successful in preventing pyorrhea and decay. The importance of cleaning and polishing the teeth is beginning to be understood, and dentists are hiring dental nurses to do this work. The hygienist is allowed to practice only in the office of a dentist, who in many cases does not know as much about cleaning the mouth and polishing the teeth as she does.

With the dentists' energy still bent upon reparative and constructive work, preventive dentistry remains an indifferent issue with the majority, and prophylaxis, which should be the slogan of our profession—is at this time only visioned by the most enlightened.

The dental hygienist is a real boom to humanity, but will be a greater one the moment the present restrictions are dropped and she is allowed to practice her profession as freely as the manicurist and hairdresser. I hope to see the day when dental prophylaxis shops (if I may use the term) will be as common as grocery stores. They will fulfill an essential need. When the teeth receive this attention, many of the ills the present generation is heir to will have been eliminated. The process of polishing one's own teeth is simple and can be done by any patient who wishes to do it. Many will have the work done by a hygienist, but for the great mass of the public, the simple cleaning and polishing devices which will be shown in the pictures are instruments that cannot be dispensed with if a healthy mouth is desired.

Annual Cleanings To Be Deplored

The present habit of two or three polishings a year by the dentists is injurious rather than beneficial. To be efficacious exercise and baths must be taken regularly and frequently. Spasmodic, violent exercise is dangerous. Two or three yearly polishings lacerate and irritate the mucous membrane, which, on the contrary, should be stimulated by daily massage and weekly polishings. Massage of the gums with an instrument that will not lacerate or puncture them as does the tooth brush is absolutely essential to their health, while nothing but friction with a smooth hard substance as for instance a flat wooden stick sloped like a miniature shovel will keep the tooth surface free from deposits. The tooth brush does neither of these.

Patients Should Be Taught To Care For Own Teeth

I have successfully taught hundreds of my patients to clean and polish their own teeth. Had it been impossible, or even difficult for my patients to learn, it would be necessary for me to employ a number of dental hygienists, and have many more operating rooms.

The cleaning of the mouth and the polishing of the teeth will never be really valuable and oral trouble will continue until the patient learns to do this work for himself. The dental hygienist should devote her time to teaching the patient how to do this for himself in his own home. When she is taught to extend the lesson outside of the four walls of her office her mission will be an invaluable one.

Learned By Bitter Experience

Many people have often asked me how I first got off the beaten track. I might say as did a great artist: "God has given me the power to paint what I have suffered." Before I was twenty-six years old I had lost all my lower back teeth through pyorrhea and my front teeth were so loose I could move them with my tongue. I consulted the dental specialists of the day but they gave me no hope. They told me that pyorrhea was a local manifestation of a constitutional disorder, and that nothing could be done for my teeth, and that I would lose them all unless the constitutional troubles from which I was suffering could be controlled and cured.

When my teeth first became infected I was not conscious of any trouble. But by the time I had lost four or five valuable teeth, I was certainly conscious of plenty of suffering. There seemed to be no remedy, however, and I was hopeless of a cure. At this time the late Dr. D. D. Smith, of Philadelphia, came to lecture on this subject at the University of Minnesota. Dr. Smith's first statement contradicted almost everything I had learned on pyorrhea up to that time. The gist of Dr. Smith's contention was that pyorrhea was simply a manifestation of a local irritation: that it increased as the irritation increased, and subsided as the irritation was removed. In other words, Dr. Smith told us in plain English that pyorrhea was a disease of filth and neglect, and nothing more, and that cleaning the teeth and keeping them clean would prevent pyorrhea and much decay.

So, instead of going to a dentist I began cleaning and polishing my own teeth. I kept this up for several weeks, and noted a decided improvement. Then another great specialist, a man who was regarded as the foremost authority on the subject, came to lecture at the school. He opened by saying that he had spent $30,000 in research work, had examined thousands of skulls, had experimented on dogs and other animals, and had compiled and written several books on the subject.

He said that pyorrhea was simply a local manifestation of serious constitutional trouble. He told his story so well that I believed him. I stopped polishing my teeth and began consulting stomach and nerve specialists instead. I was told that I had gastric ulcer and neurasthenia. I almost became convinced myself that I was suffering constitutionally. For I was miserable all the time. I neglected my teeth for medical treatment. I did not improve. On the contrary, I seemed to grow worse, and my teeth were giving me more and more trouble.

Desperate Measures Require Sensible Remedies

I finally became desperate, so once more I went back to polishing my teeth. I would at least keep these clean—as clean as it was possible to have them. I polished them once, sometimes twice a week in the beginning. I hardly expected results, but I kept it up because of the pleasant sensation of a clean mouth. To make a long story short, my teeth improved, my gums became healthy, the loose teeth began to grow firm again, and at the end of a year I was not only rid of my pyorrhea, but I had not lost another tooth. My general health also had greatly improved.

From actual personal experience I was convinced that Dr. Smith was right when he said that pyorrhea was due to local irritation, and that it was nothing but the result of neglect. By neglect I mean lack of proper care—not neglect of the brush.

When I commenced practice, I began this same kind of treatment on my patients, with the end in view of curing pyorrhea in those who were afflicted, and of preventing it in those who were fortunate enough at the time to be free from it. I advised and insisted that for the sake of the general health the patient must learn how to polish his own teeth. My instruments were crude, but the work they accomplished was effective.

How The Thing Is Done

I first instructed my patients to throw away their tooth-brushes, and to use sterilized gauze wrapped around the finger for massaging the gums, as well as small orange wood sticks for polishing the teeth. The orange wood sticks were carried in an instrument called the *porte polisher,* then on the market.

Some patients would complain that this instrument would rust and get out of order often enough to make it an inconvenience. Others complained of having to cut and prepare the gauze. This led me into fields of experimentation, until I developed the instrument for massaging the gums, and the present polisher for polishing the teeth.

The instrument for massaging the gums holds two sterilized rolls of cotton, and has a loop end for scraping the tongue. I call it the "Kuroris" (*cura oris,* care of the mouth).

As I have said, my first order to a patient was to throw away his toothbrush and *forget where he had thrown it.* There are three reasons why the brush should not be used, any one of which is a sufficient reason for discarding it.

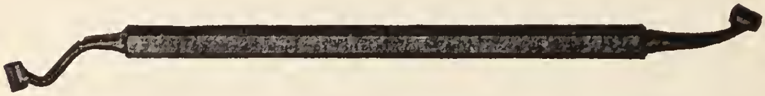
First: The brush does not clean the mouth nor does it polish the teeth.

Second: It cannot be sterilized unless it is boiled at least twenty minutes, and I do not know of brushes that will stand this treatment. Brushes are made of animal matter (the hairs of the hog). The only safe way to sterilize these is to burn them.

Third: The brush cuts the teeth and gums if persistently used. Drs. Smale and Jones say its bristles act as inoculating needles.

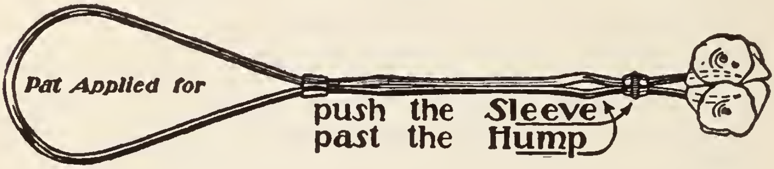
The Philosophy of the Procedure

I tell each patient that he must differentiate between cleaning the mouth and polishing the teeth, just as he does between washing the hands and manicuring the nails. These two things cannot be done at the same time, nor in the same way, nor with the same instruments. The instrument for cleaning the mouth must have the following requisites. It should be clean. It should reach all parts of the mouth. It should massage, not lacerate, the gums. It should absorb, not scatter foreign matter. It should scrape the tongue. And last, but not least, it should be inexpensive, so that it may be thrown away when once used.



POLISHER.

The polishing is done with a simple instrument, consisting of a handle carrying a wooden stick at either end. These wooden sticks are dipped into an antiseptic solution and then into a polishing powder. Each tooth is polished separately, principally where the stain adheres after rinsing the mouth.



KURORIS.

The instrument for massaging the gums holds two sterilized rolls of cotton, and has a loop end for scraping the tongue. I call it the "Kuroris." Cura-Oris—care of the mouth.

After the patient has learned how to clean his mouth with the Kuroris, I teach him how to polish his teeth. I tell him that all the foreign matter deposited on the teeth is not visible to the eye. For it is often the color of the tooth itself, and in order to locate the deposits definitely I apply a disclosing stain.

This stain is composed of glycerine, water, dinc iodide, potassium iodide and iodine. The tincture of iodine is a poison, and should not be used. This stain reveals the plaques, and the patient can see readily just where the teeth most need polishing. After the teeth have been thoroughly polished with little wooden sticks I apply the stain again to make certain that no deposits have been missed. If the teeth are clean no stain will adhere to them after the mouth is rinsed. After two or three careful and thorough polishings, it is easy to see that to have a clean mouth and polished teeth is a very simple matter, even though one might be miles away from one's favorite dentist.

Description of Cases

Some dentists argue against home treatment, saying that only one class of patients, the most intelligent, will take the time and trouble to clean the teeth in this way. This does not require superior intelligence, simply a desire for clean teeth. One of my patients is a maid who came to me with pyorrhea. I taught her to polish her own teeth. This she does regularly every Sunday. She has already interested several of her friends in the method.

Another patient has an interesting story. Six years ago her teeth were loose, the gums discharging pus. She was being treated by both medical and dental specialists. There was no doubt of constitutional trouble in her case. She had been given sixteen injections of vaccine for pyorrhea without results, and was finally told her case was hopeless. She was desperate when she came to me to ask how many teeth should be extracted. After examining her mouth I told her that all could be saved. The answer was such a surprise to her that she asked me to repeat it, fearing she had not heard aright. I taught her how to polish her teeth. After a few months the tissue healed, the teeth became firm, and she did not lose a single tooth. Now she never omits a weekly cleaning and polishing. Her mouth has since been examined by hundreds of dentists and pronounced in excellent condition.

A third case is that of Mr. R who came to me so broken in health that he could not continue his work. He had consulted six or seven physicians. No organic trouble could be found except high blood pressure. He had been gradually getting into this condition for a year or so. Upon examination I found a serious condition of pyorrhea. He knew that his teeth were effected by pyorrhea, for at least the past five years, but was told by his dentists that the disease could not be cured. His four lower teeth were so loose that by binding them together with silk floss, I was able to remove the four teeth in one mass with my fingers. His teeth and mouth were first cleaned and he was taught to polish his teeth at home. At the end of six weeks polishing pyorrhea instruments were for the first time used in front of the camera showing actual time consumed in treating one pocket. Each pocket was treated once in the same manner. The home and office polishing were regularly carried on and in a short time the pockets had closed, the teeth had become firm and the mouth and teeth were in the healthy condition in which you see them in the second picture. His teeth were the cause of all his trouble. He is well today.

Still another case is Mr. P. who had been suffering with tic douloureux for the past two years. The pain usually began in the lower left lip in the region of the lower left cuspid, extending along the lower jaw and soon involved the entire left side of the face. When the pain was upon him he could hardly open his mouth. I found his teeth affected with pyorrhea and the lower left bicuspid occluding before the other teeth each time the jaws closed. I ground down the tooth and put it out of occlusion for the purpose of rest. The bite was permanently opened one-quarter inch and held in this position by means of bridgework which brought the posterior teeth into occlusion. Three days later all the pain subsided and regular polishing was begun and continued at home and the office until pyorrhea symptoms entirely disappeared. The patient was dismissed cured with orders to keep up the regular polishing if he wished to avoid the same trouble in the future.

Don't Pull Teeth Unless They Require Extraction

Extraction of loose teeth in pyorrhea is like pulling bricks or stones out of an arch, the support is immediately destroyed. When this occurs in the mouth, the case is beyond prophylaxis, for entire reconstruction is then required in order to put the mouth in serviceable condition again.

Unfortunately, many people do not consult a dentist until the teeth and gums have actually rotted away. Another reason for so much dental decay is the mistaken but prevalent idea that fillings, crowns, and bridges prevent decay and pyorrhea. The fact is that these things often aggravate both conditions. Not until the patient learns how to keep his own teeth clean and polished will he be in a position to understand and demand good dentistry.

If the public would learn the true value of the care and cleanliness of the mouth and teeth, as well as how to determine good dental work, much of the suffering now experienced would be eliminated. The almost universal use of the X-ray simplifies the understanding of dental work.

We will never get dentistry up to its highest level until the public understands these facts. And when they do, dentists everywhere will do better work. They'll have to, or get into some other line of work, where their shortcomings will not be so obvious as they now are. And the archaic and obsolete toothbrush will accompany them.

MINUTES OF THE SIXTY-SIXTH REGULAR MEETING OF THE ASSOCIATED PHYSICIANS OF LONG ISLAND.

THE Sixty-sixth Regular Meeting of the Associated Physicians of Long Island was held at The Five Mile Look, Blue Point, N. Y., Saturday, June 19th, 1920, and was attended by seventy-five guests and members. The President, Doctor Henry Goodwin Webster, of Brooklyn, N. Y., presided over the business session which was called to order at three forty-five, there being a quorum present. As the minutes of the January, 1920 meeting had been published the reading was dispensed with by general consent.

The membership committee presented the following names of applicants for the consideration of the meeting and all of these names were ordered added to the Roster of the Society.

Proposed by Dr. John F. Ranken:
- Dr. Pierron Willets Bergen, 494 Second Ave., L. I. City, N. Y. N. Y. Homeopathic, 1912.

Proposed by Dr. Lefferts A. McClelland:
- Dr. Johnnes Meyer, 2038 Fulton Street, Brooklyn, N. Y. Berlin, 1880.

Proposed by Dr. Dennie Edward McMahon:
- Dr. J. de Raismes Combes, Wilson and Barclay Streets, Flushing, N. Y. Long Island College Hospital, 1917.

Proposed by Dr. James Cole Hancock:
- Dr. Amos Mead Ritch, 711 Putnam Avenue, Brooklyn, N. Y. New York Homeopathic, 1886.
- Dr. C. Everett Field, 742 Lefferts Avenue, Richmond Hill, N. Y. New York University, 1891.
- Dr. John F. W. Meagher, 220 Brooklyn Avenue, Brooklyn, N. Y. College of Physicians and Surgeons, New York 1901.
- Dr. Henry William Kemp, 2442 Cornelia Street, Brooklyn, N. Y. University of Toronto, 1906.
- Dr. Otto Henry Rhode, 113 Reid Avenue, Brooklyn, N. Y. New York Eclectic, 1896.
- Dr. Peter Benjamin Sarason, 284 Eleventh Street, Brooklyn, N. Y. John S. Hopkins, 1912.
- Dr. James Joseph Shay, 526 Forty-seventh Street, Brooklyn, N. Y. Long Island College Hospital, 1912.
- Dr. William Joseph Coogan, 247 Greene Avenue, Brooklyn, N. Y. Fordham, 1916.
- Dr. Noel H. M. Campbell, 332 South Street, Jamaica, N. Y. University and Bellevue, New York, 1913.
- Dr. L. Broderick Cohen, 189 Boulevard, Mineola, N. Y. New York Homeopathic, 1914.
- Dr. Seymour G. Clark, 7 Linden Avenue, Brooklyn, N. Y. Johns Hopkins, 1916.
- Dr. Victor Giantieri, 163 Washington Park, Brooklyn, N. Y. University of Penna., 1917.
- Dr. Jacob Braun, Kew Gardens, Queens, N. Y. College of Physicians and Surgeons, New York, 1905.

The President then called for the report of the Committee he had appointed at the time of Doctor Louis Nott Lanehart's death for the purpose of drawing up resolutions in connection with this sad event. Doctor William Browning, Chairman of the Committee, read the resolutions and then suggested that some more lasting testimonial to Doctor Lanehart's memory be established, suggesting that it take the form of a fellowship in the new home for physicians, if that home was to be established upon Long Island. Doctor Browning moved that a Committee, of which Doctor Frank T. De Lano should be Chairman, be appointed by the President, to consider ways and means of establishing a fellowship in the contemplated Physicians Home, if established upon Long Island or, if not, to take such other steps as may be deemed advisable.

The report of the Committee of which the other members were Doctors William H. Ross, of Brentwood and James M. Winfield, of Brooklyn, was ordered received and spread in full on our records. The Committee was discharged with the thanks of the Society.

Doctor Browning's motion was carried.

The full report of the Committee will appear in another part of the Long Island Medical Journal.

As to the social end of the meeting, including the dinner and such recreation as was possible—well wasn't Doctor Lefferts A. McClelland in supreme command?—why say more?

James Cole Hancock, Secretary.

EDITORIAL

THE NEW SWEDISH MARRIAGE LAW.

THE SOCIAL Hygiene Bulletin contains the following resumé of an advanced marriage law passed by the Parliament of Sweden, which seems worth quoting in full, as follows:

"The new marriage law passed by the Parliament of Sweden is characterized in some quarters as the most progressive in the world. Its leading principle, says the *International Woman Suffrage News,* is "to make the position of husband and wife equal; their rights and duties mutual in every respect, and to make them both responsible for home and family."

Under this new act the guardianship of the husband is totally abolished. A wife may, like her husband, choose her own domicile, and is entitled to take her working utensils and part of the furniture. She may practice any trade or profession without her husband's consent and has all liberty of contract even with her husband.

The parents are made joint guardians of their children, the only instance where different rights are accorded being that where a child possesses a fortune of its own. In this case the father is legal trustee.

Regulations for divorce are enunciated in the law as follows:

If both want to dissolve their marriage, they have only to send in to the proper authority an application for separation, which is then granted for one year without any further investigation. When the year is out each of the parties may urge full divorce and is not obliged to give any grounds for his or her demand. Divorce is then immediately granted. If they or one of them want to get a divorce without going through a year of separation, or if only one party desires separation against the wish of the other, reasons must be given. Such reasons are mainly infidelity, desertion, debauchery and drunkenness, neglect of family duties, and knowingly exposing the other party to contagion through veneral disease.

When marriage is dissolved through divorce, all property in which is vested a marital right is equally divided between the parties; if one of them is in need of further help for his or her maintenance, the other will be bound to give such help according to his or her ability, if the divorce has been caused entirely or mainly by the misdemeanor of the former. The court decides which of the parents shall take care of the children, and its decision shall be founded solely on what may be considered best for the children themselves. Only if the father and mother are considered equally fit to take care of the children, will their respective guilt with regard to the divorce come into consideration."

One hesitates to comment upon a situation as unusual as this, particularly if one has been brought up in an atmosphere which regards the marriage tie as something more than a business arrangement. Possibly the first thought that strikes one, is that the point of view expressed by this new measure is distinctly that of the ancient cave man and woman, who propagated children on a purely animal basis, and asserted their individual rights by brute force—teeth and fists against teeth and nails. We have observed the same attitude between cats. It will of course be contended that the wife should have an absolute equality with the husband, and this is doubtless true, but complete equality postulates a very high development of all the moral qualities. If husband and wife have developed the same ideals, the same moral and intellectual forces acting equally in both and centered upon the children will doubtless render all divorce laws unnecessary, in that there will be no desire for divorce. The more truly cultured human beings become and the more nearly they approach to ethical perfection, the less need there is for concrete law. The situation suggested by the right of voluntary separation as here expressed, is that there has been a moral retrogression, which has resulted in a decision to regard the marriage tie from a purely utilitarian point of view, and to make it as easy as possible for both parties to the contract to dissolve it at will and without the formality of consent by the State, unless one or the other party dissents. We may be wrong, but it seems that this only points the way to a distinct deterioration of public morals. H. G. W.

DISPENSARIES.

TAKING part in a general discussion on the question of the Dispensary, Dr. Eliot Bishop emphasizes certain aspects of the Dispensary question, which seems well worth general consideration. They are quoted in full and left for the reader to digest.

Discussion of any dispensary problem may seem emasculated without considering the economic aspect. Unless we have complete socialization of the medical profession, the consideration of any of our organization problems is bound to be. However, in opening the discussion on this subject tonight, I am purposely omitting all I can the economic aspect.

The observer who places the value of all service upon a monetary basis, considers the doctors of institutional staffs as misguided but kindly idiots. While not expressing it similarly, let us for the sake of argument, presume we are. How much of altruism, of professional approval, and of financial advancement are mixed in the ambitions of men on the staffs of our hospitals will never be ascertained.

If we are going to get pleasure out of our work, let us organize it to get the most; if hospital trustees are going to get the most and the best work from the doctors, let them properly equip the institutions.

Years ago it forced itself upon me, that the better equipment and the more experienced personel were given by hospital building and organization to the bed patient, whether—and here economics creeps in—charity or private. For the ambulatory patient, the institution furnished material and personnel—and in general only the poorest—for the charity group. For the ambulatory private patient, the physician furnished his own equipment.

My contentions in this matter are two. The first is: frequently the ambulatory patient presents major pathology, and needs the expert diagnostician. My second is: institutions, logically to complete their equipment and organization, should provide a proper place for care of the private ambulatory patient. At present, in most so-called semi-private hospitals, the above is so logical and obvious that I shall not argue but elucidate.

Delay in diagnosis of cancer or of tuberculosis is so common that it is used as a classical example. If the delay occurs in the private practice of a poorly educated physician, the licensing state has the responsibility and there is no recourse at present. If the delay occurs in the dispensary practice of a high class semi-private hospital, whose is the responsibility? Conversely, in many hospital wards, patients have temporarily disabling, but minor ailments, and it is economic waste of talent for the older and most experienced men to do much of this routine ward work. Must I point out the conclusion, obvious to me, that more experienced men must be responsible for at least diagnosis of the ambulatory patients, and younger men should be given more care of ward patients? To complete the arrangement properly, the hospital should provide office accommodations for the treatment of private and semi-private ambulatory patients, as it does at present for the private and semi-private bed patients.

LOUIS NOTT LANEHART, M. D.

IT IS our sad duty to place on record the death of our genial and beloved fellow-member, Dr. L. N. Lanehart, on Apr. 25, 1920. It is but natural to feel that this was untimely, the more so as he was a man of great activity and apparently sturdy physique.

Dr. Lanehart was one of the original organizers of this Association, one of its strong supporters, its first Vice-President, and in 1899-1900 its President.

He was born Apr. 11, 1860 at Elgin Ill., the son of Simon and Elizabeth (Palmer) Lanehart. While a child his parents moved to Troy, N. Y., where his boyhood was passed and he gained his early education. He then became a student in the office of Dr. Albert Vander Veer, professor of surgery at Albany, which doubtless accounts in part for his preference in practice. He took his M. D. degree in 1883 at the Albany Medical College. After graduating, he located at Rensselaerville, Albany Co., N. Y., where he was in general practice until 1887. He next came to N. Y., took a post-graduate course at the N. Y. Polyclinic, and later served as substitute interne for a term in the Presbyterian Hospital, N. Y. C. In March, 1888, he settled permanently at Hempstead where he soon acquired a large and lucrative practice. But his activities and reputation extended much further.

He married, Oct. 28, 1892, Miss Elizabeth, daughter of Seaman Pettit of Hempstead, who survives him. He left no child.

Dr. Lanehart for many years occupied a prominent position. In practice and in public affairs he came into relation with many of the best known people of his region and time.

He was a frequent attendant at the State Medical Society, as delegate from his County Society, and was Vice-President of the State Society in 1901-2.

He was specially a surgeon, with a leaning to orthopaedics. Two of his published articles may be noted:—"The Treatment of Hip-Joint Disease," 1899, *Assctd. Physicians of L. I.*, 1900, I, 51-56; and "Small Hospitals and their Administration," *N. Y. Med. Record*, 1901, vol. 59, 566-69.

His membership included all the local medical societies, a charter member of the Associates, the N. Y. Acad. of Medicine, the A. M. A., the Piping Rock Club, the Lotus Club of N. Y., the Turf and Field Club, Garden City Golf Club, Norfolk Country Club, Sons of the Revolution, Morton Lodge No. 63 F. & A. M. of Hempstead, St. George's P. E. Church at Hempstead, etc.

He was Chairman of the Medical Advisory Board of 27 members for Division No. 23, N. Y. State Selective Service, having jurisdiction over local Boards Nos. 176, 180, 181, 182, 183, 184, 185 of the City of N. Y., and local Boards 1, 2, 3-4 of the County of Nassau and local Boards Nos. 1, 2, and 3 of the County of Suffolk.

The most noteworthy event in his professional career was the establishment of the Nassau Hospital. The plan of establishing a general hospital in Nassau County originated with Dr. Lanehart, He had the vision to forsee the possibilities of such an institution, and the force and energy to carry his plan to a successful realization. For ten years he devoted his time, thought and influence to this undertaking. As President of its Medical and Surgical staff, and surgeon-

Louis Nott Lanehart, M. D.

in-chief in fact if not in name, he was able by his large acquaintance and by his surgical skill to get the financial assistance needed, and to bring the work of the Hospital up to a high state of efficiency. In 1908 he severed his connection with the Nassau, and organized the Hempstead Hospital, of which he was President of the Medical Board.

On the closing of this institution two years later he opened a private hospital which was subsequently turned over to the Catholic Sisters and is now known as the Mercy Hospital. He was President also of the Medical and Surgical Board of this institution up to his death.

For thirty years he was an active member of the Queens-Nassau Medical Society, serving as its President in 1902-03.

Other positions he had filled included: Instructor in Orthopaedics and Surgery at the N. Y. Post-Graduate Medical School, and associate of Prof. A. M. Phelps in that work. Surgeon to the South Shore Hospital, the Belmont at Hempstead, the Eastern L. I. at Greenport, and consulting surgeon to the Babylon and to the Williamsburgh in Brooklyn. Health officer of the town and village of Hempstead for several years. Surgeon and medical adviser of the Garden City Hotel.

In fact no medical move in his region progressed far without af-affiliation and counsel.

He was President of The Valve & Pump Co. of Rockville Center, L. I.,—his only known commercial activity.

His ability to cooperate with others and to recognize needs beyond those of self showed character of a superior order.

Of recent years he passed the late winter in Florida, a plan that doubly favored needed relaxation.

One characteristic of Dr. Lanehart stands out,—his indifference to the commercial side of his profession. The charity patient or one paying a small fee received the same consideration at his hands as the person of wealth. As he tersely put it,—"I am not always hungry."

When animated a slight hesitancy in speech added a touch of piquancy to his converse. He was a man of great personal charm, 'a good mixer.' He could always be counted on to cheer things with a telling quip, and to liven a dinner or meeting. And this with his genial and kindly nature made him at all times a welcome guest. It is consequently on the social as well as the practical side of affairs that his absence will be grievously felt.

He had been a sufferer from chronic heart disease for 12 years or more, and been under the care of Dr. L. F. Bishop during that time. He had three attacks of angina in all, the first nine years ago, the second a few years since, the third and last resulting fatally. This trouble is thought to have resulted from an infected gall-bladder which was removed by operation some years ago. The interment was in Greenfield Cemetery at Hempstead.

We can but offer our sincerest appreciation and deepest sympathy to his family. We ask the Associated to join in this testimonial.

William Browning,
William H. Ross,
James McF. Winfield,
Committee.

Society Transactions

(Continued from page 273.)

Intraabdominal Hernia Through Transverse Mesocolon.

Robert F. Barber, M.D.

Dr. Richard W. Westbrook:

"I would like to ask Dr. Barber if he is quite sure that this was not a herina into the duodenojejunal fossa, or fossa of Treitz. I believe, if I recall his description of the operation correctly, that he went over the upper abdomen and found everything negative, and then, going below, lifted up the colon and the mesocolon and found this hernia into the fossa, as he described it, which would be a very perfect description, I think, of a hernia into the fossa of Treitz, which is a common place for intraabdominal hernia, and where just such a thing as he suggests might occur. I have had such a case where the hernia had been present over a long period of time, a chronic affair, and where a considerable amount (in actual length I could not say how much) of small intestine was rolled out, resulting in recovery of the patient. In the lifting up of the transverse colon the entrance to the fossa was developed, very close to the root of the colon.

"It seems to me that a hernia in the lesser omentum would have produced some finding which could have been detected before looking lower in the abdomen."

Intraabdominal Hernia Through Tranverse Mesocolon

Robert F. Barber, M.D.

Dr. John E. Jennings:

"I would like to add that I can report a case in which I have not got the notes, but in which the symptoms were very similar to the one described by Dr. Barber.

"This man gave a history of about four years before coming under my observation of having taken a walk to Coney Island and on attempting to walk back home he was suddenly seized with a severe abdominal pain, with a feeling, as he said, as if something had fallen inside of the abdomen. He was unable to walk home as a result of his experience and got on a car and came back. He went to work the next day, and in general his symptoms from that time on were very similar to those of duodenal ulcer. That is, he had hunger pain, which was relieved to some extent by food, and a constant sensation of compression and pain in his abdomen.

"I made a very complete examination of the case. The x-ray findings were misleading. We thought from the x-ray that we had to deal with a duodenal ulcer, although the findings on the x-ray were not very clear.

"I made an exploratory incision and found the intestines entirely free of adhesions with no evidence of disturbance above the colon, and on lifting the omentum and going down into the lower abdomen I found in the pelvis what felt curiously enough like an ovarian cyst. I said at the time that if this patient were a women I would say it was a case of ovarian cyst. I enlarged my incision a little bit downward and lifted this cystic mass and found the small intestine in a membrane, like a caul, and turned it out and found an opening of about four fingers' breadth. I freed the intestine, which was not adherent at all. It was a duodenojejunal hernia on the left side. The entire small intestine had prolapsed into this hernia at the fossa of Treitz. It had burrowed downward in this particular case, rather than, as I take it, upward in Dr. Barbers case, if indeed it was, as he described it, an indirect hernia through the transverse mesocolon. We obliterated the hernia in this case very close to the vein by a series of purse-string sutures, and obliterated the sac by inversions. The man made an uneventful recovery. He has been well since."

Femoral Aneurism. Intraabdominal Hernia Through Transverse Mesocolon. Thrombosis of Superior Mesenteric Arterv

Robert F. Barber, M. D.

Dr. Robert F. Barber

"In connection with the case of femoral aneurism, I would say that this patient had pulsation in the anterior and posterior tibial artery. The nutrition of the leg was interfered with, as evidenced by the swelling, but there was not enough tropic disturbance to make us feel that the collateral circulation had not been established. The aneurism was so large that there must have been considerable collateral circulation at the time. If the collateral circulation had not been established it would have been an acute affair and he would not have had such a good result. Nature was good to him.

"In regard to the second case I reported of intra abdominal hernia, I would say that it was not a hernia through the fossa of Treitz. It was a hernia that occurred at least an inch or an inch and a half to the right of the fossa of Treitz, and the ligament and fossa of Treitz were perfectly clear cut in the picture.

"'In regard to the case of mesenteric thrombosis, I would say that this patient did not have such pain as the case reported last year by Dr. Paffard because she was in too great shock."

TRANSACTIONS OF THE BROOKLYN SURGICAL SOCIETY.

Regular meeting of the Brooklyn Surgical Society, held at the Building of the Medical Society of the County of Kings, 1313 Bedford Avenue, Thursday, April 1, 1920, at 8.30 p. m.

The President, James M. Downey, M. D., in the Chair.

Program.

CASE REPORTS:

1. Cases illustrating palliative and curative effect of the actual cautery in Carcinoma of the Rectum.

Martin L. Bodkin, M. D.

Discussion by Drs. Frank D. Jennings and Martin L. Bodkin.

2. Appendicitis, simulating Carcinoma of the Ascending Colon (2 cases).
3. Strangulated Undescended Testicle, simulating Strangulated Inguinal Hernia.
4. Spermatic Varix, simulating Recurrent Inguinal Hernia.

Edwin B. Wilson, M. D.

Case 2 discussed by Drs. Frank D. Jennings, James M. Downey and Edwin B. Wilson.

Case 4 discussed by Drs. Frank D. Jennings and Edwin B. Wilson.

5. Congenital Stricture of the Ureter. X-ray photograph.
6. Bilateral Ureteral Calculi, complicated by Acute Gangrenous Appendicitis.
7. Nephroptosis with Kinking of the Ureter, due to Peritoneal Band. X-ray photograph.

John F. Griffin, M. D.

Case 5 discussed by Drs. J. Sturdivant Read, Arthur H. Bogart, Frank D. Jennings and John F. Griffin.

Case 7 discussed by Drs. Frank D. Jennings and John F. Griffin.

PAPER:

Suprapubic Prostatectomy by the Two-stage Method. A consideration of the technic; its advantages and limitations. What class of cases should be selected for this method.

J. Sturdivant Read, M. D.

Discussion by Drs. Nathaniel P. Rathbun, Charles S. Cochrane, John F. Griffin, Howard T. Langworthy, Lewis J. Pearson, Thomas M. Brennan and J. Sturdivant Read.

JAMES M. DOWNEY, M. D., President.

FRANK D. JENNINGS, M. D., Secretary.

Cases Illustrating Palliative and Curative Effect of the Actual Cautery in Carcinoma of the Rectum.

Martin L. Bodkin, M. D.

DR. FRANK D. JENNINGS:

"I would like to ask Dr. Bodkin the type of cautery used, the depth of the penetration, and whether or not the cautery was used after the method that Percy uses in uterine carcinoma."

DR. MARTIN L. BODKIN:

"I wish to say that it is simply a question of radical removal in a portion of the rectum where it can be safely applied without doing any great injury. The growth is removed as close to the normal mucous membrane as possible, or to the submucous, the healthy tissue, without any idea of doing anything more than destroying it. I find, as far as the palliative treatment goes, where it is a question of increasing the lumen of the gut that the heat is so intense that you really cannot put your finger in there as it would burn it, but even in those cases there is so much of the tissue which is really involved, that you can do it very thoroughly. It simply is a question of burning as much as you can in those cases without injuring the surrounding organs, and you don't attempt that in the palliative treatment. Where you simply want to increase the lumen of the gut for the relief of obstruction and for the physiological use of the rectum, you simply bore enough of a hole to allow of fecal movement. In the curative cases, you eradicate it as well as you can without injuring the surrounding organs, sufficiently to allow the organ to perform its function.

"You have to be very careful where you are working against the urethra or the vagina. It is a very easy matter to burn them. I have never had that misfortune.

"As to the method, it is more the application of the Byrne theory for cauterization of the cancer itself, and not the Percy method."

DR. FRANK D. JENNINGS:

"Do you take it out with the cautery knife?"

DR. MARTIN L. BODKIN:

"I simply burn it out with the ordinary cautery."

DR. FRANK D. JENNINGS:

"Where do you start, in the carcinoma itself?"

DR. MARTIN L. BODKIN:

"Yes, right in the carcinoma."

DR. FRANK D. JENNINGS:

"And roast it slowly?"

DR. MARTIN L. BODKIN:

"Yes, roast it very slowly and carefully so as to avoid destruction of the neighboring tissue.

"It is better to start out with the idea of doing it twice rather than to do it all at one sitting. You are very much better off in that way. It is almost sure to recur in some portion of the scar if it is done at one sitting on account of the inability to eradicate the growth."

Appendicitis, Simulating Carcinoma of the Ascending Colon (Two Cases).

Edwin B. Wilson, M.D.

Dr. Frank D. Jennings:
"Was the appendix in the second case examined histologically?"
Dr. Edwin B. Wilson:
"Yes, it has been examined. The report has not come back yet. I haven't the report with me."
Dr. Frank D. Jennings:
"Were there any enlarged glands in the mesentery in the second case?"
Dr. Edwin B. Wilson:
"Yes, but not as marked as in the first case."
Dr. Frank D. Jennings:
"Was the cecal or colonic wall in either or both cases thickened?"
Dr. Edwin B. Wilson:
"Yes, the whole thing seemed to be practically one mass, especially in the first case."
Dr. Frank D. Jennings:
"Did either case have the appearance of ileocecal tuberculosis?"
Dr. Edwin B. Wilson:
"No."
Dr. Frank D. Jennings:
"Just inflammatory tissue?"
Dr. Edwin B. Wilson:
"Just inflammatory tissue."
Dr. Frank D. Jennings:
"With enlarged glands?"
Dr. Edwin B. Wilson:
"With enlarged glands, the first one being much more irregular. The second one was much smoother."
Dr. James M. Downey:
"Why did you drain the first case? There was no pus, you said."
Dr. Edwin B. Wilson:
"It probably was due to a fixed idea. We had gone in with the idea that we had pus, from the general history, and thought there was pus in the case. We went through and didn't find it. We did so much exploration there that I was afraid to close it up, still hoping there might be some place where there was pus."
Dr. James M. Downey:
"It came away on the fifth day?"
Dr. Edwin B. Wilson:
"It looked like a large amount of pus."
Dr. James M. Downey:
"Were the tubes out from the first to the fifth day?"
Dr. Edwin B. Wilson:
"No, they were left right in place."

Spermatic Varix, Simulating Recurrent Inguinal Hernia.

Dr. Frank D. Jennings:
"Was the obstruction at the external ring?"
Dr. Edwin B. Wilson:
"Yes."
Dr. Frank D. Jennings:
"And yet the vein filled from the internal ring?"
Dr. Edwin B. Wilson:
"Came down from the internal ring, partially downward, and didn't seem to be able to come further than the external ring."
Dr. Frank D. Jennings:
"Yet the direction of the blood-stream there is up, isn't it?"
Dr. Edwin B. Wilson:
"It certainly is."
Dr. Frank D. Jennings:
"Then, why should an obstruction at the external ring permit the vein to fill from above that point?"

Dr. Edwin B. Wilson:
"There is an opening between the vein and the upper part. There is no valve apparently to keep it from coming down."

Congenital Stricture of the Ureter. X-Ray Photograph.

Dr. J. Sturdivant Read:
"I would like to ask Dr. Griffin if, when that boy was in his acute attack, the kidney was tender, the so-called Murphy sign, whether it was marked.

"I also want to congratulate him on his splendid handling of the case in saving the kidney. Many of us at the second operation would feel the ureter was so damaged that we would have to sacrifice the kidney. He deserves credit for transplanting the ureter and saving the kidney for that young boy."

Dr. John F. Griffin:
"The Murphy sign was very positive both times that he was in the hospital."

Dr. Arthur H. Bogart:
"I would like to ask the doctor to describe his technic in transplanting the ureter. As I understand it, he was operating extra-peritoneally at the time. I may be wrong about that. Did you have to come in from the peritoneum?"

Dr. John F. Griffin:
"I separated the ureter upward from the peritoneum, dissected it off from the peritoneum extra-peritoneally, and after cutting off the strictured portion about ½-inch at the lower part, slitting the ureter upward for about another ½-inch, and passing a suture in through the bladder, out through the punctured opening and on one side of the flap out on the other side of the flap, into the bladder slit and on through the bladder wall, so that when the flap is in the bladder and tied, with the ureter flaps spread apart, then using one stitch in front and one stitch in the back. It is all done extra-peritoneally. The second time I went in on the case there was quite a bit of pus floating around down through the old tract, which, no doubt, was the cause of his localized peritoneal irritation. He had quite a time for several days, but came through all right."

Dr. Griffin asked Dr. Bogart if this answered his question and Dr. Bogart replied that it did.

Dr. Frank D. Jennings:
"Was the ureter quite long in that case, doctor?"

Dr. John F. Griffin:
"It was. After it was fixed in place, there was very little tension on the bladder. I transplanted it high in the fundus.

"One of the reasons why I separated it so far up on the peritoneum was to enable me to pull it down."

Nephroptosis with Kinking of the Ureter, Due to Peritoneal Band. X-Ray Photograph.

John F. Griffin, M.D.

Dr. Frank D. Jennings:
"I would like to ask Dr. Griffin how frequent these bands are. My impression was that kinking of the ureter in that location was most frequently due to an aberrant blood-vessel. I would like to ask also what the band consisted of and where it ran. Did the band fix the ureter so that when the kidney dropped down, it kinked the ureter?"

Dr. John F. Griffin:
"The kidney had dropped slightly and the ureter was fixed at that point by this band which ran across the ureter at that point. In reading up as to what can kink the ureter at that point, an aberrant blood-vessel is, of course, the most common, but the next most common condition is the remains of a duct. There is a remnant of a fetal duct that may stay there and act as a band, retroperitoneally, and is attached to the peritoneum higher up and runs across there. It is a remnant of the woffilan duct."

Dr. Frank D. Jennings:
"These are congenital conditions, are they not?"

Dr. John F. Griffin:

"Yes, congenital."

DR. FRANK D. JENNINGS:

"So that in these cases, as in the first case, that of congenital stricture of the ureter, and in this third case, these congenital conditions can exist, as in the first case of that boy, who was 9 years of age, and this young lady, who was 18 years of age (By DR. GRIFFINS "Yes"), the symptoms usually develop late; or do they have symptoms through life which are mistaken for other conditions?"

DR. JOHN F. GRIFFIN:

"There probably are other conditions for which they are mistaken. This girl of 18 was never very well. She always had pain on the right side, which was the reason she was operated upon so many times without result. I dare say that in younger life they are not affected to such a degree that the real condition can be determined, and as they grow older the symptoms become more pronounced."

Paper: Suprapubic Prostatectomy by the Two-Stage Method. A Consideration of the Technic; Its Advantages and Limitations. What Class of Cases should be Selected for this Method.

J. Sturdivant Read, M.D.

DR. NATHANIEL P. RATHBUN:

"I think Dr. Read summed up in a very concise and comprehensive manner the attitude of the majority of the surgeons who are doing this line of work at the present time.

"As the doctor said in the beginning of his paper, a former very distinguished member of this Society, I believe, did more than any other one man who ever lived to popularize the two-stage operation and in doing this made a very distinct contribution to surgery.

"I feel that this procedure has been the means of saving a great many lives. Nevertheless, my own attitude is a preference for the one-stage operation. In spite of that preference, however, I find myself doing more and more two-stage operations. In going over my case-records for 1918 I find that 50% of my cases were done by the two-stage method, while in 1919 I did considerably more by the two-stage method.

"I believe the bladder should be drained. I think it is essential. I think it should be gradually emptied and drained preliminary to operation. I prefer wherever possible to drain with an indwelling catheter.

"I started out with the idea that there were three distinct indications for the two-stage operation:

First. Cases complicated by calculi. I believe that is an absolute indication.

Second. Cases (and we see them not infrequently) in which it is not possible to pass a soft rubber catheter.

"Third. Cases in which there is a question of judgment, because not all cases will tolerate an indwelling catheter, and it is very often a question what you consider toleration.

"The method which I like to follow in prostatectomy may in brief be summed up as follows, as I do not want to take up too much time:

"The patient's bladder is drained with an indwelling catheter, during which time the usual tests are made, and prostatectomy is done in combination with local and general anesthesia, the general anesthesia consisting of ether by the drop method under an open mask, started simultaneously with the injection of the local anesthetic and with one-sixth of a grain of morphin as a preliminary. The layers of the abdominal wall are infiltrated and incised as we come to them, and the bladder wall is also carefully infiltrated. At this time we are down to and prepared for the enucleation of the prostate. The patient is under primary anesthesia, and the enucleation of the prostate is done under primary anesthesia, which is stopped immediately, and the suturing completed without any anesthesia, the parts having been previously anesthetized by local anesthesia, and the patient is now wide awake, conscious and may be given a drink of water, if he wishes it. The entire operation takes on an average of 12 or 14 minutes and 2½ ounces of ether.

"I think with the one-step operation we have the advantage of a freely-movable bladder, with a wide open wound, and our fingers are not cramped as in the two-stage operation; and I think, further, it can be really done quicker.

"One of the reasons why I think I have perhaps used the two-stage operation more than the one-stage is because many of the cases which come to us at the Brooklyn Hospital have had their ureters pretty badly traumatized, especially ward cases, by more or less unsuccessful attempts to catheterize the bladder which precludes the idea of an indwelling catheter.

"One of the points which has been made for the two-step operation is the establishment of a granulating wound around the bladder which precludes the possibility of extravasation. I do not believe that that is much of a factor. It has been my experience, oddly enough, that I have never had an infection after a one-stage operation, but I have seen serious prevesical infection after the two-stage operation in a man with a huge prostate. Considerable difficulty was experienced in enucleating it and considerable force was used in the manipulations. I presume I actually dislodged his bladder. Adhesions forms and he had a pre-vesical infection which was very serious and required a second operation for drainage. He made a good recovery eventually and is well today, but has a ventral hernia at the site of his second operation.

"Hemorrhage in prostatectomy does not bother me very much. That occurs from two sources, one, from the peri-prostatic plexus of veins, and, two, from tearing of the mucous membrane. If we are careful to get our line of cleavage started properly and begin our enucleation after the method suggested by Squier, of New York, we are in very little danger of getting any trouble from hemorrhage. Furthermore, it is surprising how large a prostate can be delivered through a small tear in the mucous membrane.

"I think fully 90% of my prostatectomies require no particular attention because of hemorrhage. We watch them for a little while and if there is any indication that they are going to bleed, or if I am worried by the fact that there may be excessive hemorrhage, I do as Dr. Read suggests—pack gauze in the prostatic bed and in the bladder and prevesical space. The prostatic cavity contracts in just exactly the same way that a uterus from which a placenta has been recently delivered contracts. It is a muscular organ and we always leave the so-called capsule.

"As I said in the beginning of my discussion, I think Dr. Read has summed up the situation as it is viewed by the majority of operators, and I repeat that, in spite of the fact that I prefer the one-stage operation, I am forced in many cases to adopt the two-stage operation, and I believe it has been the means of saving the lives of a great many of my patients."

DR. CHARLES S. COCHRANE:

"Dr. Read and Dr. Rathbun have thrashed out most of the salient points, but there are a few points that I happen to come in contact with at the Kings County Hospital, because of the character of the patients that we get there that might be interesting.

"One reason we have for considering the two-stage operation at the County, in addition to the irritability of the urethra, and so on, is the mentality of the patients. We get a poorer class of patients who have been abused outside and oftentimes their mentality is kind of bad and they will pull out the original catheter, whereas if it is fastened in they don't do that. That helps us in a great many cases.

"Another practical point which we have got a lot of help from has been in the use of the silk retaining catheter which Paul Pilcher brought out. Charles Bard, of New York, imports a large size (about 30 or 32) which avoids any suturing of the bladder itself. You make a small opening and put your catheter in with a pair of uterine dressing forceps, and when it opens up, it goes in pretty snugly and saves suturing.

"In regard to anesthesia: at the Kings County Hospital for the past five years we have been using spinal anesthesia on all prostatectomies. When one death at the Kings County Hospital where the anesthetic could be con- we do a first-stge we use novocain. As far as I know, I have had only sidered as being in any way connected with the cause of death. That was in the case of a patient who had delirium tremens before coming on the service and a plethoric type of individual. Whether that had anything to do with it or not I do not know.

"We use Babcock's solution of stovain and we use a small calibre needle, and by using a small calibre needle we do not have headaches and laceration of the membrane afterwards.

"In using gas we didn't have very good luck. It was difficult to get people trained in the use of gas. With the men being changed every month we found they used too much gas and too little oxygen, which seemed to increase the bleeding, and we abandoned that, and our luck with stovain has been so very good that I feel I have been able to do prostatectomies on some of the questionable cases which has been on the border line as far as the phtalein test has been concerned, and where if they had been given ether I am sure they would have developed pneumonia. I have not had any cases of pneumonia in the last five years, senile or otherwise, and before considering the use of spinal anesthesia we had lots of pneumonia. So I thing it is worth considering.

"Until within two years, fortunately, I did not have to do a two-stage operation in all the time we have been doing prostatectomies at the County. Then we seemed to do them almost exclusively, but it was because of the character of the cases. To show you what we have once in a while. About a month ago we had a man who was an orderly in the employ of the State Insane Department. We put a catheter in him and he had a temperature of 104 in an hour. We put a suprapubic catheter in and everything went all right. We seem to have a lot of that. Whether it is pure infection, which we claim it is, or whether it is more than that I do not know.

"In doing the two-stage operation we feel there are two objections which we try to overcome. The first and most important is the healing of the second wound. It seemed to take longer and we had more fistulae resulting from the two-stage operation than we did with the primary operation, and that is something to be considered. With the one-stage operation we generally have the patient urinating before the twenty-first day, as a rule on the eighteenth or twenty-first day. With the two-stage operation it has been a question just where our incision is in relation to the top of the bladder; and I think the time the patient begins to urinate is much longer in the two-stage than in the one-stage operation and that is something we have to consider.

"There is one type of prostate where the perineal wall comes in, and that is in the small, hard prostate which is situated low down, but the patient has retention, has a persistent colon infection because of the slight pouch behind, and where it is a case of drainage without real enucleation, and that type of operation comes in. We don't have the long enucleation. We don't have the easy enucleation and we sometimes have to do a Young procedure in those cases. I think that type is less satisfactory. I note by the Journal of Abstracts of two or three days ago that Freyer considers doing that type of operation in cases of small, hard prostates. The perineal operation, I think, we do perhaps once a year out at the County, and that shows how little real use we have for it."

Dr. John F. Griffin:

"I think Dr. Read has summed up the matter of prostatectomy very well.

"No doubt, we have to choose our cases to decide which method we are going to use, whether it be the one—or the two-step operation. I like to do the one-step operation if I can, particularly because of accessibility for control of hemorrhage. Dr. Rathbun says he doesn't mind hemorrhage. I don't like hemorrhage in these old fellows. They cannot stand the loss of much blood. There is apt to be quite a bit of bleeding from the mucous membrane of the bladder, posteriorly, and in the one-step operation, besides using the pack, I use a suture ligature. I use a Balfour retractor in the abdominal wound and then a smaller bladder retractor inside of the Balfour, and I get a very good exposure of the prostate and also of the prostatic cavity that remains. You can get a very good view of the posterior lip of the mucous membrane in this way, and in nearly every case you can find two or three small spurting vessels in the lip of mucous membrane. I put a very small No. 0 plain gut suture ligature just through, not to crowd or diminish the calibre of the prostate pouch at all, but just around the vessel and tie it off and then pack, and usually when you pack the bladder you get very little hemorrhage. Usually the following morning the urine is practically clear, macroscopically at least.

"As to the choice of operation: we all like to do the one-step operation. It is easier and you can do a better enucleation. There is no question but what there are cases that will not support a catheter in the urethra and, as Dr. Read says, you very often get an epididymitis. I have a case at the present time in which I used a urethral catheter and he developed epididymitic. I had to remove the catheter. The condition subsided and I again put in an indwelling catheter, the epididymitis subsided and I enucleated his prostate three weeks ago and he has done very well. He is a man 82 years old. There is no question but what that is a troublesome complication in cases in which we use catheter drainage before operation.

Dr. Howard T. Langworthy:

"I would like to ask Dr. Read if in the second stage of the operation he uses the lateral incisions that Dr. Paul Pilcher suggested in his technic."

Dr. Lewis L. Pearson:

"My experience as a general surgeon is so much smaller than that of the genito-urinary men that I have a little delicacy in speaking on this paper. However, I am speaking to general surgeons and I will speak of my own experience.

"My preference is for the two-stage operation. The patients I have operated on have been mostly very old and feeble people and their condition was such that it looked as if they would not live if operated on in one stage, and yet by doing it in two stages they rally from the second operation and get well. After the enucleation, in hemorrhage, I massage the prostate just as I would the uterus after confinement and it has checked the hemorrhage to such an extent that in the not very large number of people I have operated on I didn't have to use packing or suture. It seemed to control the hemorrhage very well.

"There was a case in which I intended to remove the prostate by the suprapubic route in two stages. It was a very small, hard, fibrous prostate. I performed the first stage of the operation and in attempting to remove the prostate suprapubically at the second stage saw it was difficult or impossible to remove it suprapubically, so I made an incision below in the perineum and removed it by the combined method. I then sewed up the perineal wound and drained through the suprapubic opening, and the patient did very nicely.

"As for the length of time to wait between the two stages: I have not waited very long. The test I have been guided by has been that of the specific gravity. After the first stage operation the specific gravity in most of these cases falls rather low, to 1008, 1009, or 1010, or thereabouts. I wait until it goes up to 1014 or 1015 and then do the second stage operation. In the not very large number of prostatectomies I have done I have lost no patient from doing the second stage at a comparatively early period. I don't think I wait over three weeks and in most cases from ten days to two weeks."

Dr. Thomas M. Brennan:

"It has been particularly interesting and instructive to me to listen to Dr. Read's scholarly presentation of this subject.

"I think he brought out nearly all the indications for the procedure, and it has added insurance and assurance as far as safety is concerned in this operation.

"My reason for speaking on this paper is to relate my experience in a recent case which bears out Dr. Read's remarks on the subject. He was particularly interested in this case and guided us and did the operative work. The patient was a clergyman, 62 years of age, but much older in appearance. He came into the hospital suffering the agony of pain, with acute retention and a good deal of urosepsis, temperature, weakness, pallor, emaciation, etc. Dr. Read followed that case along for several weeks with the ordinary treatment; that is, an indwelling catether, and later on irrigation and proper attention to his heart, diet, hygienic conduct of the case, etc. That patient was admitted to the hospital November 1 and it was not until January 8, that Dr. Read felt he could do even the first step of the operation, and that was done, as I say, January 8, under local anesthesia, the patient at that time having come into the proper condition to withstand the operation. It was remarkable to see how easily he went through that operation, if you could call it an operation, for the procedure was minor rather than major. It was done under local anesthesia. He rallied from the operation very rapidly. I believe he was up and about in five or six days with a catheter in the suprapubic wound. He was so much improved that January 24, Dr. Read did the second step of the operation, and from this he rallied with great difficulty. He had a tremendous amount of pain, some rise in temperature and developed the alarming sympton of hiccough, and for several days he was very seriously ill. Later on the symptoms abated and his condition improved. He left the hospital March 24 entirely healed, greatly improved, bladder clean and with no sepsis at that time.

"This case was particularly adapted to that type of operation, and the case if operated on in one stage would have surely succumbed.

"My objection to the two-stage operation was that it made two operative procedures necessary, in the first place, and, in the second place, it was based on the difficulty of manipulation in the second procedure and the frequent occurrence of hemorrhage in the second procedure.

"In watching Dr. Read do this operation in this case I saw my mistake in the first case. His first step is practically a minor procedure under local anesthesia, with very delicate manipulation, and where he had previously explored the anterior wall of the bladder, opening up the prevesical space. He did not touch that at all. He simply opened the bladder and put a tube in. I noticed his closing of the skin. It was not so accurately apposed. In the second operation he was not confronted with the same difficulty that confronted me in my second operation, because of his previous delicate manipulation, and he did not have so much scar tissue in the second operation. As to hemorrhage: when I saw how he handled hemorrhage I took great courage. He put in a real pack right down to the prostatic pouch and filled up the bladder.

"I mention this particular case because I believe this was the only procedure that would have saved the life of this patient."

Dr. J. Sturdivant Read:

"I thank the gentlemen for their discussion. I am always interested in and informed by other men's experience.

"I am always afraid of hemorrhage at the time of operation and also the possibility of its occurrence after the patient leaves the table. Profuse hemorrhage reduces the patient's resistance so much that absorption, sepsis and profound hemorrhage may prove fatal; whereas the first two might be overcome by the body resistance. So I always like to pack. I think Dr. Griffin's point about bleeding in the prostatic capsule is well taken. It is in the torn capsule that the bleeding arteries are to be found and I hope to be able to perfect my technic so that I can expose these bladders well enough to tie these points after enucleation of the prostate, and with an extreme Trendelenburg and a free incision that can certainly be done with a greater facility than we used to think possible. I recently had one case of severe secondary hemorrhage fourteen days after the second step, demonstrating that some artery in the torn prostatic capsule had ulcerated through. I went in immediately and packed with gauze without removing the patient from his bed. Though greatly exsanguinated, recovery took place.

"Replying to Dr. Langworthy's question relative to lateral incisions in the bladder wound at the time of the second step, as recommended by the late Dr. Pilcher, I have never used them."

Congenital Stricture of Ureter. X-ray Photograph.

John F. Griffin, M.D.

A school boy aged eleven, born in U. S. had always been well and robust until one year ago, i. e., 1916 when he was operated upon for Appendicitis.

The symptoms which preceded that operation were a sudden severe pain over the right side of abdomen accompanied by chills, high fever and vomiting.

Three weeks after leaving the hospital he had a similar attack but after remaining in bed for a few days the symptoms subsided almost completely. These attacks began to come frequently (about every month) and more severely until he was admitted to St. Catharine's Hospital in Oct. 1917. On admission his temperature was 104—pulse rapid, frequent vomiting with severe pain in the abdomen, particularly over the right side.

On physical examination heart and lungs were found normal. The abdomen was distended and rigid particularly along the whole right side from the costal margin to the symphysis. Tenderness was extremely along the whole right side and in the right costo-vertebral angle.

The urine contained many pus and a moderate number of red blood cells.

The following day his symptoms had subsided, the vomiting ceased, temperature reduced to 101, the pain and tenderness had diminished very much. After three days the boy seemed apparently normal, the urine had cleared of blood there still being a number of pus cells.

An X-Ray picture at this time showed a kidney slightly enlarged and a little lower than its normal position. On account of the small size of the urethra, I did not attempt to pass a cystoscope but from the history and symptoms made a diagnosis of "Kink of the Ureter" and suspended his kidney with the hope of curing him.

He left the hospital in three weeks apparently well.

On January 12th, two months later, he was again admitted in a semi-conscious condition with the history that he again had his usual periodical attack of pain on the right side accompanied by chills fever and vomiting. On the following day after his admission he was much improved and three days later was again free from pain and seemed normal.

On Jan. 21, under ether, I cystoscoped him, using an 18 F cystoscope. A number 4 ureteral catheter was passed into the left ureter without difficulty. On attempting to pass the catheter into right ureter, much difficulty was encountered at the ureterovesical junction. After a great deal of manipulation and pressure the catheter finally passed the obstruction and was inserted to the pelvis of the kidney. Twenty c. c. of Thorium were injected, the catheter withdrawn and an X-ray picture taken. The pyeloureterogram showed a dilatation of the ureter. The lower portion did not show in the picture although there was no doubt that the whole ureter was dilated down to the uretero-vesical junction, at which point there was a distinct stricture.

On Feb. 12th, under gas-oxygen anaesthesia, a ureteral catheter was passed into the right ureter and cystoscope removed. Through a low right lectus incision, extraperitoneally, the ureter was found to be about ¾ of an inch in diameter down to about ½ inch from bladder; at this portion the ureter was about diameter of a match. This strictured portion was slit longitudinally and sewed transversally with No. 0 plain cat-gut. A small drain was left in and abdominal wound closed.

The catheter drained freely during the night and in the morning the patient did not take kindly to the irritation of the ureter catheter, so he removed the adhesive and the irritating catheter. That evening, uring came through the abdominal opening. The drain was removed two days later and after waiting for 15 days as there seemed to be no chance of the urinary fistula closing, I again operated on Feb. 27th, opening up the old incision and with a great deal of difficulty found the opened ureter. I tied off the ureter close to the bladder with chromic gut and cut off the ureter above. The ureter was then dissected off the peritoneum upward for about 2 inches and about ½ inch of the lower end of ureter was cut off. This was the strictured portion. The lower end was then transplanted into the fundus of the bladder through a vertical slit. A small drain was inserted and wound closed. A retention catheter was put in the bladder.

The patient had a stormy time for about six days due to a localized peritonitis but there was no leakage of urine. Retention catheter was removed on the eighth day and he was discharged on Apr. 4th, in good condition.

Since that time he has been in excellent health. His family physician informed me two weeks ago that he has grown to be a very healthy robust lad with no symptoms referable to his former trouble.

Medical Book News

BOOK REVIEW SUPPLEMENT TO THE *LONG ISLAND MEDICAL JOURNAL*

Edited by JAMES M. WINFIELD, M.D.

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FATIGUE STUDY.

FATIGUE STUDY; the Elimination of Humanity's Greatest Unnecessary Waste. A First Step in Motion Study. By Frank B. Gilbreth and Lillian M. Gilbreth, Ph. D. Second edition, revised. New York, The Macmillan Company, 1919. 175 pages. Illustrated. 12mo. Cloth, $1.50.

In the preface of this second edition the authors emphasize the increased importance of fatigue study at the present time for the following reasons:

First, as a matter of maintenance. The enormous progress made during the war in the prevention and elimination of fatigue should continue. By these means not only were human lives conserved but output tremendously increased. Second. as a means of conserving waste, both of human effort and material elements and thereby assisting in paying the enormous war debt. Third, as a method of developing greater co-operation between employers and employees, between different members of the community and among investigators in other fields.

According to their estimation, there is a loss to our nation of at least $300,000,000 per year, due to preventable fatigue. To overcome this enormous economic waste, fatigue surveys are recommended. The directions for making these surveys are given in the simplest and plainest of language made more emphatic by frequent repetition.

In studying fatigue, the Gilbreths consider the problem almost entirely from the viewpoint of scientific management, leaving the chemistry of fatigue, the psychology and physiology of the worker to other investigators, who have devised methods of detecting and estimating fatigue by noting the physiological changes in the worker, the ralative amounts of O inspired and the Co_2 expired, and not by estimation of output, as erroneously stated by the authors.

The Gilbreths in their surveys determine the following factors: 1. What fatigue is necessary. 2. What fatigue is unnecessary. 3. The best method of eliminating unnecessary fatigue. 4. How to distribute the necessary fatigue. 5. The best means of recuperating quickly and completely from fatigue. Their measurements of fatigue are made by measuring the activity, its product, also the interval of time that elapses before the worker has regained sufficient energy to perform the same work in the same amount of time and with the same results. Activitv is measured by motion study and by records of outputs when using the various methods. Motion study consists in dividing the elements of work into the smallest divisions possible; studying and measuring these fundamental units separately and in relation to one another. When by frequent repetition, it is noted that with two different sets of motions, the same piece of work requires the same amount of time and produces the same amount of output, but with one set of motions the interval of rest needed for recuperation is longer than that required by the other set of motions, then the motions which require the shorter interval are considered the more efficient and less fatiguing. The length of the interval of rest represents the amount of fatigue.

These motion studies are made with the aid of the cinematograph and a special clock which registers extremely small intervals of time. Supplemented by the use of the cyclegraph, the chronocyclegraph and the penetrating screen, the most intricate motions can be recorded.

It is in the development of fatigue eliminating devices that the Gilbreths have rendered particularly valuable service. Among these are the work table which can be adjusted to different heights required by different work; various adjustable chairs. Their excellent advice is "adjust the work to the worker if possible; where this is not possible, immediately adjust the worker as best you can to the work. Make the relation of his elbows to the work, the deciding point." There is also the shock-absorbing chair suitable for operators of heavy machines which cause considerable vibration. The most interesting of all is a work pocket or table upon which are placed the various tools and correct number of articles necessary in performing certain work. These tools, etc. are placed in the most convenient position and in the order required, that the worker may grasp them in the easiest and most comfortable way thereby eliminating all unnecessary, awkward or fatiguing motions.

A very earnest plea is made for the establishment of a greater number of Fatigue Museums, where different fatigue-eliminating devices may be collected and data relative to the subject may be compiled. To the Gilbreths must be given the credit of originating and establishing the first Fatigue Museum in this country.

While the various methods of eliminating fatigue described so accurately in their book apply particularly to the average industrial plant, many of these suggestions could be successfully carried out, not only in the factories but in our homes, schools, laboratories and hospitals.

To the student of industrial fatigue, a broader knowledge may be obtained, by studying the subject not only from the angle of the physiologist but from that of "scientific management" as well. For that reason one can heartily recommend this little volume.

R. B.

EDUCATION IN WAR AND PEACE.

EDUCATION IN WAR AND PEACE. By Stewart Paton, M. D. New York, Paul B. Hoeber, 1920. 106 pages. 12mo. Boards, $1.50.

This little volume contains three addresses delivered by the author on different occasions. They are well worth publication because they are of general interest. The public needs the information the author gives so clearly. The informed are stimulated to think further. Altogether the book is very interesting.

The author points out that many reformers and super-idealists—socialists and bolsheviki—are really psycho-neurotics who, though unsuccessful in their own concrete sphere, feel that they can bring about Utopia for all mankind. They are wish-thinkers and pass over entirely their failure to correct themselves as individuals and to put their theories into practice in their own family lives. The author betrays a lack of acquaintance with the ideals of educators from John Locke down, otherwise, he would not have found it necessary to employ the newly coined term, mental hygiene. The arguments of the author would have been strengthened had he shown familiarity with the views on social heredity and the development of the emotions as set forth by Benjamin Kidd.

O. V. H.

HISTORY OF MEDICINE.

A CONCISE HISTORY OF MEDICINE. By Sir William Osler, M. D., F. R. S. Published by permission of the Encyclopaedia Americana Publishing Co., Baltimore, The Medical Standard Book Co., 1919. 66 pages. 16mo. Cloth, 85 cents.

This little volume is a reprint of an article in the Encyclopedia Americana and contains the essentials of Medical History. The whole work is interesting, but the chapter on the Changes in Therapeutic Methods is a classic; it is written in Osler's best style and reveals him as the great and farsighted physician. Every medical man should have a copy of this book for the above mentioned chapter is worth many lectures on the treatment of disease.

W.

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PUERPERAL ECLAMPSIA IN HOSPITAL PRACTICE.*

Robert E. Coughlin, M. D.

Brooklyn, New York.

BAR has made a careful study of the causes of puerperal eclampsia and has arrived at the conclusion that the cause is a complex toxemia. The nature of the primary causes is unknown. Their action causes secondary poisoning of the kidneys and liver, and the poisons thus produced add to those already acting and cause the preeclamptic state. Hypertension, although the immediate cause of the attacks, is not the primary causative factor. Thus there is a complex condition of toxemia of the blood serum, acting on the liver, kidneys and brain, resulting in the phenomenon which is called puerperal eclampsia.

Probably no originality can be claimed for the statements regarding the treatment of convulsions in pregnancy as outlined in this paper.

In 1889 Love published an article in which he claimed that Dr. Newton twenty-five years before managed cases of puerperal eclampsia by administering large doses of veratrum viride. Fordyoe Barker had prior to this time written about the drug in peritonitis and phlebitis. Later than 1889 obstetricians like Barrows, Edgar, Chandler, Willis, Grindell, and others have testified to the efficiency and efficacy of veratrum veride in eclampsia.

The treatment of puerperal eclampsia at the Norwegian Hospital in Brooklyn as advocated by the writer resolves itself into conservative means at the outset with heroic methods at a later period. As soon as a patient is admitted in convulsions with high blood pressure and rapid pulse she is put on the tincture of veratrum viride in fifteen minim doses every fifteen minutes hypodermatically until the pulse shows signs of slowing up perceptibly or the convulsions have discontinued. As a rule, when the pulse has been brought down near the normal rate the convulsions are controlled. At this time observation will show that the pulse has not only become slower, but softer in character. Along with this condition of affairs the blood-pressure has been markedly reduced. At this time the drug may either be discontinued absolutely or given in much smaller doses at infrequent intervals, viz., five minims every four hours. A certain time is allowed to go on (from four to six hours) from the time of the last convulsive seizure when steps are taken to bring on labor. This delay is considered wise as veratrum viride combined with emptying of the uterus may together produce fatal shock. Rapid emptying of the uterus in eclampsia frequently causes a decrease in blood-pressure amounting to 100 mm. Hg, and causes collapse or shock. Veratrum viride given to its full physiological effect may cause a drop of 145 mm. of Hg and produce shock. It seems better for these reasons to allow the system to recover fairly well from the shock of the drug before rapid emptying of the uterus is employed.

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* Read in part before the Medical Society of Bay Ridge, June 9, '20.

No matter what the period of uterogestation, the bringing about of labor is indicated, the idea always being kept in mind that the longer the patient is left in a condition of toxemia of the convulsive type tendency, the slighter are her chances for life with each convulsion. Likewise the child, for the more convulsions the greater are the risks to the life of the fetus. Labor is induced by means of the catheter and if necessary forcible dilatation. Once there is full dilatation the delivery is accomplished as rapidly as possible, nstruments being used if the progress shows a tendency to be slow.

The anesthetic used is ether preceded by a hypodermic injection of morphine, one-eighth of a grain. Ether does not cause as much kidney congestion as chloroform and appears to be the safer anesthetic.

To relieve the condition of the kidney diuretin and potassium citrate are the diuretics employed. Aconite is also given at times for its diuretic action. Ten-gallon rectal irrigations of normal saline solution are also employed along with a retaining rectal injection of about four ounces. Cathartics are given and the patient is kept in a hot pack. For failing heart conditions consequent upon the toxemia we have to fall back on strychnine and tincture of strophanthus. For extreme nervousness bromide of sodium is given in almost all cases. The diet consists of milk diluted in different forms, cereals, gruels, toast, oatmeal, jelly, rice, and prepared buttermilk.

In desperate cases or when there is pulmonary edema atropine sulphate in one seventy-fifth grain doses is administered hypodermatically.

The following cases were admitted to the Norwegian Hospital during a period covering several months of interrupted service.

The cases were fifteen in number; three in March, three in November, two in April, May, October and December, and one in January.

Nationality: Norwegian 3, United States 6, Germany 2, Finland 1, Italy 1, Sweden 1, Spain 1.

Mortality: All the mothers except one recovered and left the hospital perfectly well. Six infants were born alive.

The ages of the patients ranged from 18-41 years, two at thirty and two at thirty-three.

Physical build of women: Five were large well nourished women; seven were slight, anaemic and rather poorly nourished.

Six were of blond type while nine were brunettes.

Eight were primiparae while seven were multiparae.

Family history was negative in each case except that a parent in one of the cases had died of epilepsy, another of kidney disease while another had died of liver disease. The father of still another case had died of general paralysis.

Previous history was also negative in each case except one patient had had an attack of kidney trouble before, but not during pregnancy, while one patient gave a history of a severe attack of Scarlet Fever when a child. One had had eclampsia previously.

Premonitory Symptoms: Severe headache; marked dizziness; swelling of the feet, hands and eyelids; loss of vision, and in one case the patient became so blind she had to go to bed. In two there was great diminuation in the amount of urine. In one irritability. In another the greatest suffering was from insomnia. Only one complained of pain in back.

In fourteen of the women there was sudden unconsciousness with convulsions and coma.

Cases number 1 and 2 each had three convulsions before delivery and none afterwards.

Case 3 had five after delivery and a good many before, the exact number could not be ascertained for the reason that no one could talk English to the ambulance surgeon in her home.

Case 4 had 18 convulsions before delivery and none afterwards.

Case 5 had five before delivery and none afterwards.

Case 6 had four before delivery and none afterwards.

Case 7 had five before delivery and none afterwards.

The blood-pressure was high both before and after delivery, except in case 6 where the pressure was only 125 before delivery, and fluctuated between 145 and 115 after labor. In one patient the blood-pressure was 235.

In case 7 the blood-pressure was 200 plus, before and after delivery, but gradually became lower on each succeeding day as the following will show.

October 25—Systolic 200 plus. Diastolic 195.
October 27—Systolic 195. Diastolic 180.
October 29—Systolic 185. Diastolic 150.
October 31—Systolic 160. Diastolic 140.
November 1—Systolic 155. Diastolic 140.
November 2—Systolic 135. Diastolic 125.
Number 3—Systolic 140. Diastolic 120.
November 11—Systolic 110. Diastolic 85.

The urine in all the cases contained albumen from a slight trace to a solid mass on boiling. As time went on in convalescence the albumen gradually disappeared in every instance.

The specific gravity varied in each case at different times from 1010 up to 1028.

Microscopical examinations of the urine showed the presence of the granular, epithelial and hyaline casts; also leucocytes blood cells, pavement epithelium, mucos, pus cells, urates and flocculent sediment.

The urine varied in amount in the different cases at different times but was always surpressed before delivery. The largest amount voided in twenty-four hours was one hundred and twenty-nine ounces; the smallest twenty-four ounces.

The temperature per rectum varied from 99 and four-fifths to 104, which was the highest temperature recorded in any of the cases at any time. The highest temperature was always before delivery, in fact there was a little rise in tempratur in every case before delivery.

The pulse ranged from 120 in the different cases up to 160. The pulse rate was in each case more rapid before delivery than subsequently. Abnormal tension or hypertonia was always present at some time or other in each case.

The respirations varied from twenty-five per minute up to thirty-three. The respirations were also highest in each case prior to labor.

It might be of interest to compare the foregoing figures with other statistics mentioned from time to time.

Harrar states that beginning with February, the number of cases increases during March, reaching the highest point in April and then steadily diminishes, finding the lowest level in November. The curve of this rise and fall nearly corresponds to the curve of the rainfall, which fact he states, might explain the well known theory that climatic conditions have something to do with the disease, although it is not clear why periods of unsettled weater should have the effect of producing a convulsive toxemia in pregnant women.

Regarding the frequency of the condition McPherson states that it occurred in 1.7 per cent of all labors in the wards of the Lying In Hospital of the City of New York. The high percentage was due to the fact that a hospital is the clearing house for so many of the cases occurring in the city, and the probability is that it is about eighteen times as frequent in hospital as in private practice.

The condition is almost twice as common in primiparae as in multiparae, being 64.4 in the former and 35.6 in the latter.

Regarding the age of the patient, in 250 cases the greatest number of cases occurred between the ages of 20 and 25 years which is in accord with the fact that the greatest number of eclampsias occur in primiparae.

The maternal mortality of eclampsia is given by various authors as ranging from 5 to 50 per cent.

The fatal mortality is usually from 33 to 50 per cent.

The treatment pursued was first the employment of certain drugs to control the convulsions and ameliorate the symptoms and the use of the hot pack. Cathartics were also given but the main idea was at all times to bring on labor and terminate pregnancy no matter what the period of utero-gestation. The idea was always kept in mind that the longer the patient was left in the condition of toxemia of the convulsive type the slighter were her chances for life with each convulsion. Likewise the child, for the more convulsions the greater are the risks to the life of the foetus.

Labor was induced by the means of the catheter and forceable dilation in 13 cases, two of which were delivered with forceps. In case 2 delivery occurred without interference shortly after she reached the hospital. In case 3 delivery occurred before the arrival of the ambulance, though she continued to have convulsions for some time afterwards.

The drugs used in their order of frequency were veratrum veride, diuretin, morphia sulphatis, atrophine sulphatis, nitroglycerin and potassae citratis. In one case, namely number 7, the tincture of aconite worked well. In case 4 the patient was in a condition of pulmonary oedema, but atrophine in one hundredth grain doses combined with fluid extract of veratrum veride appeared to pull her through. She was also given a ten gallon rectal irrigation, and digitalis leaves sprinkled over a mustard plaster were applied over the kidney region. This patient was delivered of her child prior to the attack of pulmonary oedema.

Of all the drugs, however, veratrum veride stands at the head of the list in the writer's experience, when given in fifteen minum doses hypodermically every fifteen minutes till it slows up the pulse perceptiably, bringing it down as low as seventy per minute.

For failing heart conditions consequent upon the toxemia we have had to fall back on strychnine, tinct strophanthus, and spiritus frumenti. For the extreme nervousness and irritability bromide of soda was given in almost all the cases.

Chloral by rectum was used in three cases, but only a few doses were given in each instance.

The diet consisted of milk diluted in different forms, cereals, gruels, toast, oatmeal, jelly, rice and prepared buttermilk.

Case 1.—Mrs. Emma R., age 41, housewife, U. S., primipara; admitted April 14. Discharged May 5. A stout well nourished woman. Had been married six years. Never had a miscarriage or been pregnant up to the present pregnancy. Last menstruation June 26. Examination showed that the external os was dilated about three fingers and fairly soft. Buttock and anus of the child felt, also sacrum and coccyx in the L. S. A. position.

The history of the case showed that she had been in labor for a period of twelve hours and had had two severe convulsive seizures. Pulse ranged from 110 to 120. Blood pressure 235 mm. of mercury. Pulse very hard and wiry to the touch. Treatment: High retaining injection of normal saline solution four ounces in quantity. Hot packs were administered every two hours. Tincture of veratrum viride given by mouth every fifteen minutes till she had in all 675 minims, covering a period of twenty-three hours. By this time the blood pressure had been reduced, the pulse slowed down to 68 and was fairly soft. Three hours later the os was forcibly dilated and a dead fetus was delivered with the breech presenting. After the birth of the child the veratrum was continued in the same manner till 75 more minims were administered making in all 750 minims in a little over twenty-four hours. The remainder of the treatment was expectment and the patient made an uneventful recovery.

Case 2.—Mrs. Ada O., age 35 years, U. S.; admitted to the hospital October 24. Discharged November 16. Was admitted in an unconscious condition. Objective symptoms: stertorous breathing, frothing from the mouth, cold, clammy skin, moderately dilated pupils extreme restlessness, pulse 124 full and bounding, cyanosis present, some dilation of the cervix, and an excessive amount of albumin in the urine.

Previous history: Had had three children, the present being her fourth pregnancy. During the first pregnancy she had albuminuria but no eclamptic seizures. Family history was negative, except that her father died of apoplexy in his forty-second year, and one sister had chronic kidney disease.

History of present illness: Two months ago while in the country she was seized with a violent headache with vomiting. A country physician was called in and she was advised by him to put herself in the hands of her physician in the city as soon as possible. He examined the urine but did not tell her the result of the analysis. She returned to Brooklyn, but failed to follow instructions. While on the train to her home she had some dizziness and vomiting, but this had always been her habit when traveling. After returning home she became better and none of her friends apparently realized the seriousness of her condition till she was suddenly seized with a convulsion while asleep in bed.

Examination on admission: Heart impulse of medium force, pulse tension high; no adventitious sounds present. Urine passed involuntarily.

Treatment: Tincture of veratrum viride in fifteen minim doses hypodermatically every fifteen minutes. In twelve hours seven drams had been administered, when all convulsions ceased. Hot packs were also used and four ounce rectal saline injections were administered every four hours. Tincture of strophanthus and caffeine were given after the veratrum was discontinued because of the weak heart action and condition of the pulse. In all there had been thirty convulsions. Eighteen hours after the patients admission a catheter was inserted into the cervix and uterus. Five hours subsequently forcible dilatation was instituted and a live child was born in half an hour by the aid of forceps.

Nothing eventful occurred in the subsequent recovery of the patient, who left the hospital in three weeks, except that the uranalysis showed a trace of albumin with a specific gravity of 1010.

Case 3.—Mrs. W., age 38, housewife. Was admitted to the hospital November 23. Family history negative. Multipara, the present being her fourth pregnancy. No history of previous kidney disease could be obtained. Patient gave birth to twins eight hours prior to admission to the hospital. Seven hours after delivery convulsions set in, five or six occurring within an hour. After admission the convulsive seizures were almost continuous.

Condition on admission: Coma present, though she could swallow fluids; both eyeballs rotated downward, pupils equal and reacted to light. Pulse from 110 to 120, temp. 99.5 degrees, tension and blood pressure very high.

Uranalysis: Color, not clear; reaction, acid; albumin, a very large amount; no sugar; flocculent deposit; few leucocytes; granular and hyaline casts.

Treatment.—She was put on hot packs every four hours and tincture of veratrum viride given by mouth, fifteen minims every fifteen minutes. Rectal injection of normal saline solution four ounces, to be retained, every four hours. During a period of ten hours she was given 625 minims of the tincture of veratrum viride when it was discontinued, the pulse being around 70 per minute by this time soft in character. Stimulants were now given. Caffeine two grains, strychnine sulphate one-sixtieth grain and tincture of strophanthus three minims every four hours. For over twenty-four hours, her condition though she was comatose, appeared to be good. Later while in a hot pack the pulse suddenly went up to 120, and her heart stopped beating. Her respirations continued for some time, but she could not be resusitated. Everything pointed to the severe toxemia of the disease having caused death, for she had not received any veratrum viride in over twenty-four hours. This case illustrates very well how uncertain and how serious eclampsia really is, even after the uterus has been emptied and the convulsions have been controlled.

Conclusion

1. That there is no expectant treatment in a consideration of Puerpéral Eclampsia.

2. That early control of the convulsions and emptying of the uterus will bring about the best results.

3. That veratrum veride is a very important drug in the treat-

ment of convulsions due to the toxemis of pregnancy. It acts best when given in large doses at frequent intervals. It may be administered either by hypodermic injection or by the mouth, but the former method is preferable because of a better and more prompt action.

Veratrum viride lowers the pulse rate by direct action on the muscle and by stimulating the inhibitory nerves of the heart. It reduces spinal action, also arterial action, and is said by Wood to be the safest of all cardiac depressants. Instances are on record in which a dram of the fluid extract has been taken without fatal results, also a tumblerful of the tincture. Either the tincture or the fluid extract may be administered, the latter being twice the strength of the former.

It should always be given till its physiological action is produced, viz., slowing of the pulse. When this has been accomplished the convulsions will have ceased.

4. That atrophine sulphate should be tried in desperate cases especially where there is a tendency to pulmonary oedema.

That while careful nursing, hot packs, applications to kidney region, and diet are important the prime indication for treatment is the control of the convulsions and early evacuation of the uterus, thus bringing about improvement in the metabolism, improvement in the circulation by reducing blood pressure, improvement in the condition of the urine, improvement in the temperature, pulse and respiration, saving the heart and cardiac muscle from unnecessary strain in a word the bringing about of metabolic changes so that the balance between absorption and elimination has been increased in favor of elimination.

SUPRAPUBIC PROSTATECTOMY BY THE TWO STAGE METHOD.

John Sturdivant Read, M. D., F. A. C. S.

Brooklyn, New York.

A Consideration of the Technique; Its Advantages and Limitations.

THE USEFULNESS of this procedure was first demonstrated to me by the following case. In December 1913 M. D. age 76, large and fat, was referred by Dr. Henry M. Moses. He complained of a suprapubic urinary fistula. Three years previous a suprapubic prostatectomy was begun at a standard Manhattan hospital. After the bladder was opened, the condition of shock was so alarming that the patient was returned to bed. He then was sent or went home. Since that time, three years, he had been well but the annoyance of the urinary fistula had become unbearable. Operation had been refused by two surgeons since. Examination showed a very large prostate of the glandular type. Renal and cardiac function good. Operation Jan. 5, 1914. The old fistula was resected, adhesions between fistulous tract and adjacent tissue thoroughly freed; scar tissue in old bladder wound resected. A large prostate euncleated, (two calculi removed), Freyer's tube inserted, and as there was very little hemorrhage, no packing was used. Gas ether anesthesia.

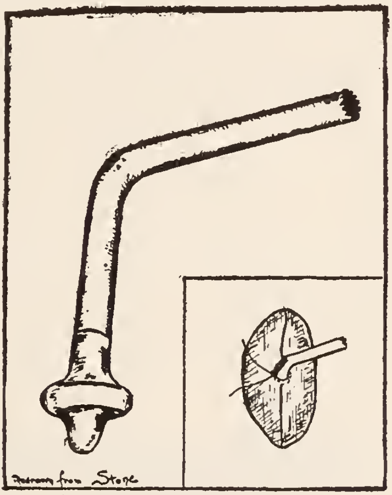
Moderate degree shock, renal secretion began in twelve hours. Tube out the third day. Convalescence was uneventful, except for a stitch abscess. Five weeks after operation wound was healed and function perfect. This patient has remained well and aside from occasional attacks of cystitis, due to his failure to report for regular vesical lavage, has had no trouble. He died in 1919, six years after operation.

A second case of profuse hemorrhage, with severe cystitis and great emaciation, suggesting malignancy, necessitated preliminary drainage of one month and then a like happy result after prostatic enucleation. Since that time I have records of 97 cases with 5 deaths. During these six years I have been able to observe a larger series of one stage prostatectomies in the same Hospital and to see that my earlier enthusiasm for the two step must be moderated, but out of this experience have drawn the conclusion that it has definite value and that in certain cases it is imperative, because safer.

Preliminary drainage of the bladder is necessary until the vesical congestion and infection has been relieved; the kidneys functionating to their best capacity and the intestinal tract digesting and assimilating food properly. Drainage by permanent urethral catheter is the best method when it results in these conditions. Often however the presence of the urethral catheter is the cause of the following complications: Urethritis, as evidenced by pus at the meatus, epididymitis, by no means uncommon, loss of sleep due to the frequent displacement of catheter and the presence of a spilling glass urinal in the bed. In the presence of a large middle lobe, increased hemorrhage and tenesmus frequently necessitate its removal. Often where urethral tolerance is perfect, there persists a low grade sepsis due to imperfect drainage of a large post prostatic pouch or from the posterior urethritis due to mechanical irritation of the indwelling catheter. (i)

Advantages of the tube sewed in the bladder suprapublically are complete rest of the collapsed bladder and better drainage. No urethritis and no epididymitis; more sleep, for the patient drains in to a bottle at the side of the bed. Vesical congestion is reduced and less hemorrhage after enucleation is the rule except in those cases where an artery in the prostatic capsule is torn. Exploration by finger is done at the first step of the operation and cystoscopy can be done before the second step when desired, through the suprapubic fistula, without pain or trauma. In fifty per cent of the cases the first stage can be done under local anesthesia if preliminary injection of morphine is given. In extremely nervous or sensitive patients, gas oxygen is preferred.

My own procedure is as follows: Inject subcutaneously one per cent novocaine solution; three inch longitudinal incision; dissection to bladder, (Novacain solution being used freely). Exposure of bladder, which may be previously filled with sterile solution, seize bladder wall as near peritoneal fold as possible; introduce two stay sutures of silk. Make incision in bladder wall close to peritoneal fold of sufficient size to introduce one finger for exploration of bladder interior. Place catheter, a F. 24 right angled Pezzer is very useful. (Illustration.) Bring bladder walls closely around catheter with purse string suture. Close wound carefully in layers, with as little traumatism as possible, for these tissues are poor grade and their resistance to infection is easily lowered. A small half inch plain gauze drain in the prevesical space is useful in case of leakage. In most cases there is little post operative shock and the patient can be out of bed in two to four days. In a few, the presence of flat, flabby belly walls and lowered general resistance results in a severe infection of the tissues between bladder and and the patient is profoundlymfw mfw mfw mfwmfwymfwy fwyy skin, some urinary leakage and severe septic absorption takes place and the patient is profoundly shocked. *The second step of the operation must not be undertaken until the wound is absolutely free from any infection, the surrounding tissues soft and pliable, the edges of the wound beginning to cicatrize* and the general vigor of the patient has returned. He must be out of bed and to the limit of his preoperative vigor. The secret of safety, the main reason for this operation, is to wait until these conditions obtain whether the time required is two weeks or four months. In some cases this longer period is required and for this reason alone the drainage by perineal tube is objectionable. To grow impatient and to listen to the solicitations of patient or friends to "go ahead and finish," is to invite disaster.



The second step consists in reopening the wound, bringing the bladder as well into view as possible, enucleating the prostate and packing with a two-inch gauze strip to control hemorrhage. A moderate size tube for suprapubic drainage is fastened in for three to five days; after its removal a large Pezzer catheter is introduced per urethram. The exposure of the prostatic bed after enucleation is more difficult than in the one stage prostatectomies, for the tissues seldom regain their former plasticity, and thus the controlling of hemorrhage under the eye is often not possible. This, to me, is the most serious objection to the routine employment of the operation. The element of time is not of importance as there is little difference. But all objections are outweighed in favor of the two stage operation because of its greater safety in those cases of low vitality due to sepsis and partial uraemia of long duration.

Jas. G. Gardner has reported 112 cases with no deaths and will soon report 90 more. (Personal communication.)

Deaver prefers it in those cases where catheter fails to relieve symptoms of renal embarrassment, where anactive urinary infection is present, and in that considerable group of cases where doubt exists as to the ability of the patient to stand the one step operation."

Freyer has found need for this procedure in about five per cent of his cases, namely those in which there is present a very septic bladder with phosphatic calculi; in cases of severe uraemia which do not clear up under drainage per urethram; and in those cases in which rigor and pyrexia followed by cystitis, set up after introduction of the catheter for the first time.

To sum up: in robust individuals, tolerant to catheter per urethram, and showing prompt relief of renal congestion, the one step is preferable. In all others the two step is safer.

1. Cabot. Surgery Gyn. and Obstet. Nov. 1916.
2. Pilcher. Surgery Gyn. and Obstet. 1917.
3. J. A. Gardner. A. M. A. Meeting 1919.
4. Deaver J. B. Surg. Gyn. & Obstet. Aug. 1919.
5. Freyer. British Medical Journal. Feby 1, 1919.
6. Loree and Kraft Jour. Mich. S. M. S. Vol. 15, 1916.
7. Hinman F. Cal. State Jour. Medicine. April 1918.
8. Stewart F. Illinois Med. Jour. 1918.
9. Livermore. Kentucky Med. Jour. May 1917.

EDITORIAL

WHY DO YOU SHAVE?

Arthur MacDonald of Washington has written a letter, a copy of which follows:

Questions as to Shaving or Wearing a Beard.

Dear Doctor:

In my medical course, I remember hearing a European specialist say in regard to shaving: "Gentlemen, if you interfere with nature, you pay for it." But I am unable to find any scientific investigation of the question. I am seeking, therefore, facts and opinions from physicians. Will you kindly answer, *as soon as possible,* the questions below? I may refer to you by name, but only with your permission. (Kindly let me know).

1. What are the principal injuries to the skin, which come from shaving and the reasons therefor?
2. What are the general advantages in growing a beard and moustache, and the main reasons therefor?
3. To what extent are the beard and moustache a protection to face, nose and throat, from the incidence of disease in these organs, and the reasons therefor.
4. Does the habit of shaving increase the chances of neuralgic and other troubles of the face, and the chief reasons therefor?

If you prefer, the reasons can be given briefly, but I should be glad to have you write as fully as you can, also please mention any pertinent facts and opinions not covered by the questions.

Thanking you for this trouble, I am very sincerely,

Address: (Signed) Arthur MacDonald,

Arthur MacDonald,
The Congressional,
100 East Capitol Sttreet,
Washington, D. C.

The questions that are here asked are by no means easy to answer off-hand—for instance, what are the general advantages in growing a beard and moustache? Apart from the protection which generous chin whiskers afford a dirty collar, while they at the same time act as a storage for unconsidered remnants of food and as protective undergrowth for certain fauna, we can think of no advantage in chin whiskers, although the Van Dyke seems far less objectionable than the wind-sifter variety. Fashions change in such matters and vary with different races. Very few ladies of our acquaintance wear beards, and yet they do not seem to be troubled with diseases of the throat. In all seriousness the problem presented by Dr. MacDonald is an interesting one that has been given but scanty attention in works on dermatology and general medicine, and is something that may well be worth the consideration of those practitioners who wear beards, as well as those who do not.

H. G. W.

THE DOCTOR AND THE SMALL VILLAGE.

Among the problems that those who are working in the interest of public health have not yet solved, is that of attracting well equipped physicians to sparsely settled districts. It is a problem of Health Insurance that is not included in the general propaganda, but it is one that cuts both ways. It is a problem for the doctor and for the community as well. There are a few country districts that are blessed with physicians of an unusually fine type, men who have felt that either their own health or their call to service made a country practice essential. In many sections, however, the drudgery of routine, isolation and the lack of inspiration from without, have permitted men who started with high ideals to sink into mediocrity. Just how this problem is to be met is a grave question. It is being met by one small township in the extreme northwestern part of Wisconsin in a novel way, according to Public Health Reports. The idea is to levy a local tax sufficient to provide funds to erect a $5000 home, office and garage, which shall remain the township property and be occupied rent free. In addition an annual retainer of $1000 is to be offered. The township, however, reserves the right to prescribe the fees which shall be collected. These shall average $2.00 for a call within the township boundaries, plus 50 cents for each mile travelled, and $3.00, plus mileage, for visits outside the township. One dollar of each $3.00 fee reverts to the township. Other charges are to be made in accordance with the County Medical Society's fee bill. In addition the doctor is to serve as health officer and to supply medical care for all who are supported by the town. He is to conduct school examinations periodically and act as adviser to the health boards. It would seem that this plan should be a really attractive one, provided that the rigors of the climate and the hardships of the locality are not so great as to offer real objections to a prospective candidate. If, as has been estimated, a physician under normal conditions can care for 500 families efficiently, and the general population he is to serve does not exceed a scattered 1500 of all ages, and if the community can be persuaded to afford a district nurse, it would seem that the arrangement should be strongly attractive to any well equipped man, who is willing to forego the attractions of scientific medicine for a life of real usefulness. He should be able to lay aside money from the beginning under such conditions, and with a community as progressive as this should find the incentive to establish a health center, such as has been added in several of our more remote country districts. One such district in particular, through the activity of some far sighted and liberal summer visitors, has established a neighborhood house with a capable nurse, within easy reach of the local physician, where rooms are available for all types of medical, surgical and obstetric cases at cost, which amounts to about $15.00 a week. It has been a difficult matter to interest the country folk, but they are now discovering its advantages, and the experience of several young mothers has greatly increased its popularity, on account of its manifest advantages over remote farm houses for baby cases. Such a combination would make it well worth while for any man as a field in which he might expect to obtain real distinction, as an all-round practitioner.

H. G. W.

Society Transactions

TRANSACTIONS OF THE BROOKLYN SURGICAL SOCIETY.
MEETING OF APRIL 1, 1920—Continued.

Ureteral Calculi, Double, Complicated by Acute Gangrenous Appendicitis.

John F. Griffin, M.D.

The patient, a male age 34. Occupation—Undertaker. Born in U. S. Family history negative. Had always been in the best of health (except for a minor operation for hemorrhoids, 14 yrs. ago) until 6 yrs ago, when he had an attack of renal colic, which lasted for a few days and was relieved by the passage of a stone. This attack was located on his right side since that time he has had four attacks of renal colic all on the right side and each time passed a stone after the attack.

On May 12-18, I saw the patient at his home, for what was thought to be another attack of renal colic. He was a very robust man, who said his usual weight was about 260 lbs. He stated that about 5 weeks prior to above date he began to have severe pain on his left side which resembled the former renal colic attacks on his right side. This pain lasted until a week ago, at which time he began to have pain on his right side. He described this pain as being different from that on the left side, in that, it did not extend into his back but more along the course of his right ureter, down to the region of the bladder. He was now nauseated had vomited several times and bowels had moved with enema. Temperature—102, pulse—120. Skin was somewhat dusky and lips cyanosed.

His abdomen was extremely tender all over but particularly in the right lower and upper left quadrants. He had not voided urine in 12 hrs. I cystoscoped him and found the bladder entirely empty. The mucus membrane of the bladder was markedly congested and urine could not be seen coming from either ureteral orifice. After a great deal of manipulation and force, I succeeded in passing a catheter into the left ureter and passed an obstruction which was at the uretero-vesical junction, immediately there was a very rapid flow of urine through the catheter. I permitted this side to drain off until the urine came normally. I used various sized catheters in an attempt to catheterize the right side but did not succeed. I advised the patient to go to the hospital immediately but it being late in the evening he said he would go in the morning. About 8 A. M. the following day an X-Ray picture was taken, in St. Catharine's Hospital, of both kidneys and ureters. While the pictures were being developed I cystoscoped him and again found the bladder empty (he had not voided since the night before). Again I tried to catheterize the right side but failed, the obstruction being at the uretero-vesical junction. I passed a catheter into the left ureter and again the urine flowed out rapidly as on the previous evening. I left the catheter in situ and removed the cystoscope. The X-Ray, which I am sorry to say, I have not been able to find, showed one small distinct shadow in the region of the lower end of the left ureter and four small shadows close together in the region of the lower end of the right ureter.

The pain in his abdomen was now continuous and not intermittent as it had been. I concluded that his right ureter was completely blocked and that his pain and tenderness on the right side were due to a distended ureter, pelvis and kidney with an infected urine and that his fever, vomiting, rapid pulse and dry tongue were due to a combination of Urosepsis and Uremis. It was thought best not to waste any more time for blood examination etc. I made an incision (under gas-oxygen) to the right of the right rectus down to the peritoneum, I separated the peritoneum from the bladder and the iliac fossa and after some difficulty reached the right ureter at its lower portion. The stones were felt in the ureter but much to my surprise the ureter was not dilated, in fact, it was small and cordlike. The peritoneum separated easily upward toward the kidney fossa. I found the kidney to be very small and fibrotic. There was no doubt then, that his right side trouble was in the peritoneal cavity. I opened the peritoneal cavity and a large quantity of thin purulent material flowed out. The appendix was easily found, it was very much inflamed, gangrenous and ruptured near the base. Stump was patient died the following day of a general peritonitis.

I report this case—to show that we must be ever mindful of other conditions complicating grave urological disease, which are hidden by the acute and painful urological symptoms.

Nephroposis with Kinking of Ureter, Due to Retroperitoneal Band. X-ray Photograph.

John F. Griffin, M.D.

Female age 18, born in U. S. Family history negative. She had measles and diptheria in childhood and eight years ago was treated for Malaria. On the whole her general health had been poor. In Jan., 1917, eighteen months ago patient was operated upon for Appendicitis and Hemorrhoids; three months later for right ovarian disease and adhesions. None of these operations relieved her symptoms. She has complained of pain in the right side of the abdomen in the region of the kidney and along the course of the right ureter. She has had for the past three months intervals of three days duration without the passage of urine. Urination was accompanied by pain in the back and in the right side of the abdomen. These pains would disappear for a short time after urination, only to return again. She had also complained of frequent severe headaches, dizziness and constipation.

The physical examination reveals a girl well developed but poorly nourished. Heart and lungs normal. Blood pressure—Systolic 118, Diast. 92. Abdomen showed one median and one right rectus scar, tenderness on deep pressure in the right hypochondrium also over the right kidney and in the costo-vertebral angle. Fist percussion in the right lumbar region positive.

Urinalysis—sp. grav. 1020—amber—acid—V. F. T. alb. few blood cells, no pus. X-Ray of kidney and ureter negative for stones. A pyelo-uretero gram of both sides using Thorium showed a distinct kink in the ureter on the right side about 2 inches below the uretero-pelvic junction. These pictures was taken in both standing and lying down positions but those taken in the standing position were not satisfactory. This picture is the one taken in the lying position.

On July 18, 1918, under Gas-oxygen anaesthesia the right kidney was exposed through a dorsal, curved incision. The peri-renal fat was very adherent to the kidney and was freed with considerable difficulty. The pelvis and ureter were exposed and the kink found as shown in the X-Ray. There was a distinct fibrous band holding the ureter at the point of angulation. No aberrant blood vessels were found. This fibrous band was cut and the ureter freed for 2 inches below the kink. The kidney was then anchored with 2 chronic gut sutures to the lumbar aponemosin. The lower half only, of the kidney was anchored leaving the upper part tilted inward, as this position held the ureter in a more normal relation. The incision was closed in the usual manner, no drainage and the wound healed by primary union. She made an uneventful recovery and was discharged from the hospital August 7, 1918 in good condition. She was seen by me two (2) weeks ago and has gained 25 lbs in weight and has been perfectly well since leaving the hospital.

This case clearly illustrates the necessity of urological investigation in those patients with chronic right side symptoms before other surgery is done. rather than after.

Cases Illustrating Palliative and Curative Effect of the Actual Cautery in Carcinoma of the Rectum.

Martin L. Bodkin, M. D.

In reporting these two cases I offer nothing new in the way of treatment of this intractable disease. I only wish to draw your attention to the good results obtained and to suggest a uniform procedure when in doubt in those cases of cancerous growths of the anus and rectum for the temporary relief of obstruction in some instances and, when the growth is small, the attempt at cure.

The highest limit of safety in applying this form of intense heat is the lower level, anteriorly and posteriorly, of the peritoneum. The growth is then situated within the lower two-thirds of the rectum.

In one of the cases reported, the patient was only 32 years old, a period at which the disease is very active, and in the other presents the slow, inoperable condition in old age.

Case 1. Mrs. H., housewife, age 32, referred by Dr. F., Oct. 18, 1915.

Oct 11, 1915, the patient consulted Dr. Ferguson because of bleeding from the rectum and pain at stools.

Present History: No mucous discharge; bowels regular daily, with blood. No history of tuberculosis on maternal or paternal side of the family. No other specific history. Has had three children, the last one year ago.

The patient is a healthy, stocky and strong, small woman.

Diagnosis: Carcinoma of rectum, about 2 inches above the muco-cutaneous junction on the posterior median wall of the rectum. Mass about the size of a silver dollar. Posterior median fissure directly down from cancerous ulcer. The mass is movable. I recommended operation for removal, at once.

Feb. 29, 1916: Patient states she was operated at Bushwick Hospital, Oct. 22, 1915. On digital examination I found a recurrence just within the upper margin of the internal sphincter, a mass of glandular shape, about the size of a large marble.

Mar. 16, 1916: Partial excision of the posterior wall in St. Mary's Hospital, removing growth from the posterior wall of the rectum with knife, and afterward extensively cauterized entire surrounding area with the actual cautery.

Pathological Report: Adenocarcinoma.

Jan. 9, 1917: Examination reveals apparent eradication of growth, although two small polypoid growths are present in the scar. Recommended colonic irrigations of aqua fluid extract of krameria in water.

Mar. 15, 1917: Operated in St. Mary's Hospital. Apparent recurrent adenocarcinoma over old scar. Actual cautery applied to an area of about 1½ inches covering old scar. Rectal tube and opium suppository inserted.

Mar. 24, 1917: Patient had severe rectal hemorrhage. Packed rectum with plain gauze, 9:30 p. m.

Mar. 26. 1917: Removed packing. Hemorrhage stopped.

Patient menstruating Sept. 28, 1917. Gained 7 pounds in weight. Two small polypi in center of old wound, Feb. 5, 1918: Polypi disappeared.

May 9, 1918: Condition good.

Mar. 12, 1920: Rectum free from growths of all kind.

Case 2. Thomas M., 70 years old, admitted to the rectal service St. Catharine's Hospital in April, 1918.

History: Family and personal history negative as regards syphilis and tuberculosis. Never has been ill during his life. Smokes and drinks moderately. In appearance, a strong, healthy man. Has had discomfort for past 8 months from fecal incontinence and bloody discharges from rectum.

Examination: The lumen of canal and lower rectum so small it only admits the index finger for a short distance. Stricture causes partial obstruction within rectum and anal canal. Skin margin slightly involved.

Diagnosis: Tubular carcinomatous stricture of rectum and anal canal.

Wassermann negative. Blood and urine normal.

Operation Apl. 25 1918. Application of actual cautery to growth within the bowel boring or excavating with the cautery sufficient to permit freer movement of bowels and relieve obstruction.

April, 1919, again applied for treatment. Has been fairly comfortable until within last few months the bloody discharge and frequent bowel movements returned.

May 1, 1919, actual cautery applied to stricture of rectum and anal canal, extending upward for thee inches. The lumen was again increased to about one inch in diameter. Opium suppository and rectal tube inserted. Duration of ether. 55 minutes.

June 14, 1919, large ischio-rectal abscess opened under ether and a thorough application of the actual cautery made within the bowel. Duration of ether, 30 minutes.

June 20, 1919, discharged from hospital unimproved as regards cure. Patient was simply made more comfortable.

Appendicitis Simulating Carcinoma of the Ascending Colon. Two Cases.

Mrs. A. S., age 45, was admitted to the Coney Island Hospital on January 9th, 1920 for relief of severe abdominal pain and inability to move her bowels. She says that about December 19th, 1919 she experienced a severe pain, cramp-like in character, in the right flank. This pain lasted one day and was accompanied by no other constitutional symptoms so far as the patient recalls. About Jan. 1st the pain recurred with greater intencity being sharp and aching in character. This pain has continued up to the present time, but with diminished intensity. She has not vomited until lately, after cathartics were given to relieve constipation which has become more pronounced since the second attack of pain. She said her bowels had not moved in several days in spite of various cathartics and enemata. She stated that the pain had always been localized in the right flank about at the level of the umbilicus.

At the time of admission her temperature was 100.2, pulse 84, respirations 20. She complained of headache, her face was flushed and with this exception nothing abnormal was noted except in the abdomen.

Physical examination—Patient was a large woman with a corpulent abdomen, subcutaneous fat being estimated at about 3 in. thickness. The abdomen was sensitive to pressure, especially in the right upper and middle quadrants, where a mass could be easily palpated. This seemed to be in relation with the ascending colon and extended from just below the border of the ribs downward to a point a little below the level of the crest of the right ilium. It was slightly movable and appeared hard in consistency. The blood count showed 20,000 leucecytes with 85% polys, 7% small lymphocytes and 6% large lymphocytes. The urine was negative. We were unable to X-Ray. X-Ray.

An attempt was made to clear the bowels by enemata and fractional doses of calomel followed by saline. In about 36 hours several large movements were obtained and the temperature, which had risen to 101.4 on the night of her admission and continued during the following day, dropped to normal and remained so for 24 hours. As all the bowel movements showed hardened foecal masses, mineral oil and salines by mouth were given and high colon irrigations continued for several days. At no time during these few days did the pulse go above 90, but the temperature would fluctuate in an irregular manner, going higher about the time more foecal matter was apparently broken up. The highest temperature was 102.6. On January 14th the movements after enema changed to a bright yellow liquid with some formed foeces, the last hard masses obtained from the bowels. From this time on the movements were yellow liquid only, with some mucus. The temperature was now ranging from 98 in the a. m. to about 102 in the evening and was consistent, whereas previously the rise in temperature was irregular in its time of appearance.

During these several days the patient appeared to lose some weight, the abdomen became much softer and the mass in the right side was much more easily palpable. All tenderness had disappeared except on very firm pressure and there was a definite improvement in the patients general condition.

We considered two probabilities in this case; (1) that of carcinoma of the ascending colon associated with a pericolonic abscess, or (2) an abscess behind the ascending colon, either appendical or perinephritic in origin. On January 16th this case was examined at a staff clinic and a tentative diagnosis made of either of the above probabilities, the large majority leaning toward carcinoma.

On January 17th the patient was operated, both abdomen and right kidney region having been prepared. A high right rectus exploratory incision, at least 6 in. long was made. The examination showed a normal gall-bladder, liver and stomach and bowels apparently empty. In the right side of the abdomen was a large mass behind and apparently a part of, or firmly agglutinated to, the caecum and ascending colon as high as the hepatic flexure. This mass was hard and irregular. In the internal leaf of the peritoneum of the ascending colon were numerous enlarged glands about the size of a small almond and very hard. The vessels of the caecum and ascending colon were engorged. It was impossible to raise this portion of the large bowel because of its intimate relation with the mass, which was movable only to the extent that it moved with the lateral abdominal wall. The appendix was not in sight and could not be distinguished by touch. Grossly, the appearance was that of a carcinoma. The involvement and mass was so great that removal, if advisable, would have been a formidable procedure. Still believing that pus was present, the patient was then placed in the kidney position, the skin again prepared and a curved right kidney incision made, the kidney space entered and the large mass encountered. No lines of cleavage were found and exploration with the finger found no pocket of pus, though an attempt was made in all directions, even into the mass which gave the impression to the penetrating finger as being that of a cellular substance and rather friable in places. The situation was an embarrassing one, so far as the prospects for the patients relief was concerned, as the only way to remove the mass was an enbloc removal, a hopeless procedure. Finally the finger was carried down to the head of the caecum, a rubber tube located and a second tube placed at the upper part of the mass in the perirenal space. The wound was then closed by layers. The patient was practically out of her anaesthetic by the time the dressings were applied and left the table in excellent condition.

Our feelings at this time wer that we had an inoperable carcinoma of the ascending colon. For the next 5 days the patient was comfortable, with the exception of some soreness in the region of the incisions. She did not have to be catheterized and the bowels moved easily with enemata. The temperature remained about the same for the first 5 days after the operation, with the exception that the evening rise was not as high as bfore operation, 101.4 being the highest except on the 4th day when it reached 102. Up to January 22d the flank dressings, which had been inspected daily for pus, were perfectly dry. On the 22nd the dressing was not inspected. It was then noted that the p. m., temperature was 99, instead of 102 as recorded on the previous day. On the 23rd the kidney wound was dressed and the dressing found saturated with pus. From this time on the temperature was perfectly normal, except once on Feb. 1st, when it went up to 101 but came down immediately after an enema. The last tube was removed on Jauary 29th as the discharge was very scanty, and the patient walked out of the hospital on February 10th in excellent condition.

I now believe that this was a case of appendicitis with abscess and a large amount of inflammatory tissue, rather than carcinoma. This opinion is intensified after recently reading an article by Arthur Dean Bevan of a case very similar to this in history and operative findings, but varying in that in his case it was possible to draw up the head of the caecum and ascending colon so that a very large swollen appendix was brought to view, at the perforated tip of which was an abscess. In the case I have just reported it is probable that we had to deal with a retroperitoneal appendix which may later have to be removed. but which I hope has been destroyed.

NOTE—This patient was examined on March 25th, 1920. No mass was palpable. She says she is doing her own work, has no trouble with her bowels and feels perfectly well.

On February 24th, 1920 I was called to see Mr. L. I., age 30, who complained of pain in the right abdomen. He gave his own diagnosis as appendicitis and a history of 5 separate attacks, the first being 8 years ago. He says that the first three attacks were believed not to be appendicitis by the physicians in attendance, although that condition was considered among the possibilities. During each attack he was treated by ice bags and rest in bed, with the exception of this last attack which occurred in the West and was treated by applications of chloroform liniment.

Examination showed no rise in temperature or pulse and the patient was fairly comfortable except for a feeling of fullness in the right side of the abdomen and was somewhat tender on pressure over the head of the caecum. In this region could be felt a hard mass which did not appear to be movable. A diagnosis of appendicitis with abscess was made and on February 25th the patient was operated at The Midwood Sanitorium. On opening the abdomen by a low right rectus incision a condition was found very similar in appearance to that described in the first case reported, with the exception that the mass was not as large and the vessels of the caecum and ascending colon not as deeply injected, and further, that there was some mobility of the head of the large bowel, though it could not be raised as is usually possible. An exploring finger was passed beneath the head of the caecum in an upward direction and entered an abscess, from which four ounces of thick pus escaped under considerable pressure. The appendix was located in the wall of this abscess behind the caecum, pointing upward, and was removed. Owing to the friable condition of the appendix at its base, where it had perforated, and also because of the depth at which it was necessary to work because of the lack of mobility of the head of the bowel closure was effected by simple purse string suture of chromic gut without invagination. With the exception of the point where the finger entered the abscess cavity, immediately at the site of the appendix. no damage was done to the tissues. One rubber drainage tub was carried up for 4 in. in the abscess cavity and a second rubber tube placed in the pelvis because of possible contamination by the pus. A few days after operation interrupted Carel-Dakin irrigation was begun and the patient walked out of the Sanitorium on March 21st with the wound entirely healed except for a skin defect ½ in. in diameter where the drainage tubes had been. This case is reported, not because of any question of diagnosis at the time, but because of the marked similarity in appearance of the caecum and adjacent colon to that found in the case first reported.

Strangulated Undescended Testicle Simulating Strangulated Inguinal Hernia.

W. N., age 10 years, Italian, was admitted by ambulance to the Coney Island Hospital on November 27th, 1919 with a diagnosis of strangulated right inquinal hernia. He was in intense pain, vomiting and said his bowels had not moved for two days. His abdomen was swollen, tympanitic and tender. In the right inguinal region was a swelling about the size of an unshelled English walnut just above the external inguinal ring. It was exquisitely tender, and for this reason no further examination by palpation was obtained. The right thigh was held flexed on the abdomen. The left side of the scrotum showed a normal size testicle and a small testicle normally placed in the right scrotum. A diagnosis was made of a strangulated right inguinal hernia.

Immediate operation was done and on cutting through the skin and superficial fascia an injected red mass was found lying about an inch above the external inguinal ring on the aponeurosis of the external oblique. This was found to be a testicle which had descended along the inguinal canal out through the external ring and then been reflected upward. It was strangulated by one full turn twist of the cord at the external ring. This strangulation was relieved and with hot saline compresses the testicle soon regained practically its normal appearance. The small testicle in the right scrotum was identified and appeared to have its own cord, at least as high as the two cords could be traced in the inguinal canal. A new bed was made in the right scrotum by blunt dissection with the finger and the previously strangulated testicle was anchored there by one chromic gut suture.

The child made an uneventful recovery, as far as his operation was concerned, and was discharged from the hospital on Dec. 14th at the request of his mother, in spite of the fact that he had a temperature due to tonsilitis.

Spermatic Varix Simulating Recurrent Inguinal Hernia.

W. M., age 21 years, clerk, was referred to me on December 4th, 1919 by Dr. O. for operation of a "recurrent left inguinal hernia."

In 1918 he was operated on in Brooklyn for a left inguinal hernia preparatory to his acceptance into the army. He said that he had no trouble following his operation and was discharged from the army several months ago with no disability, but he had been noticing for some time previous an increasing discomfort in the operation region, which lately had become so aggravated after being on his feet any length of time and while straining or similar exertion, that he had consulted Dr. O., who said his hernia had returned. The patient asked me to relieve him at the same time of a left sided varicocele, which he had asked the surgeon to remove at the time of the previous operation, but which he did not think had been done as he still has the same sensations in the left scrotum as he had formerly.

Examination, with the patient in a reclining position, shows no fullness in the left inguinal region, no impulse on coughing, a moderate left varicocele, a tight external inguinal ring into which it was impossible to invaginate the little finger from below. Palpation along the inguinal canal gave to the finger a sense of diminished resistance and tension as compared with the right side. When asked to strain an increasing fullness was easily noticed, starting from the site of the internal inguinal ring and advancing downward and inward, then curving downward and outward and ending at the external ring. This was in size and other characteristics identical with a loop of small intestine, or a sac of the same size which had become filled, and appeared to be directly beneath the skin and superficial fascia. This enlargement was not tympanitic but seemed to give an impulse on coughing, and after the patient ceased straining gradually disappeared without a gurgle or other objective signs.

On December 6th he was operated at The Caledonian Hospital. After resecting the old scar I immediately came upon a large and easily identified spermatic cord. Dissection showed that the edges of the aponeurosis of the external oblique, cut at the previous operation, had retracted to each side and were only in apposition at the level of the internal ring. The external ring was intact and fitted snugly around the cord. No hernia sac and no weak point or bulging in the inguinal canal floor were found. The patient, who was under a light anaesthetic at the time, was allowed to partly come out of his anaesthetic and as he strained a peculiar situation presented. The inner side of the spermatic cord began to swell at the internal ring and the enlargement rolled downward and inward and then outward to end at the external ring. It seemed as though it was a sac which enlarged as the content from the abdominal cavity entered it, the anaesthetist remarking that it looked like a very large and long appendix entering the hernial sac. A closer inspection showed that we had a very large dilated vein in the spermatic cord which was practically shut off at the external ring, and while under ordinary pressure was small and flaccid, became filled with blood from above downward as he strained and as its internal pressure increased dilated inward in the line of least resistance. The constriction at the external ring was cut, the varicosed veins separated from the vas as high as the internal ring, where the dilation started, and removed. The operation was finished as for a modified Bassini after the retracted edges of the external oblique aponeurosis had been well dissected out. The patient left the hospital on Dec. 19th, recovered.

TRANSACTIONS OF THE BROOKLYN SURGICAL SOCIETY.

Regular meeting of the Brooklyn Surgical Society, held at the Building of the Medical Society of the County of Kings, 1313 Bedford Avenue, Thursday, May 6th, 1920, at 8:30 p. m.

The President, James M. Downey, M. D., in the Chair.

Program.

Case Reports:
1. Renal Calculus (X-ray plates).
2. Acute Suppurative Gastritis (Specimen).

Edward D. Ferris, M. D.

Case 2 discussed by Drs. James C. Kennedy, Frank D. Jennings and Edward D. Ferris.

JAMES M. DOWNEY, M. D., President.
FRANK D. JENNINGS, M. D., Secretary.

Renal Calculus (X-Ray Plates).

Edward D. Ferris, M. D.

A. K., age 29. Nationality, Holland. Occupation, fireman.

During the past year the patient has had several attacks of pain in the left lumbar region.

Present Illness: The patient was engaged in the United States Transport Service. While in France he was taken ill with pain in the left lumbar region, radiating to the inguinal region, vomited and voided blood. He was shipped back to New York and entered my service. He had recovered from his attack; no pain, but slight soreness in the left side about the kidney. Urine normal, except for a slight trace of albumin. Blood normal. The X-ray showed a stone in the pelvis of the left kidney.

Operation: Incision in the left lumbar region. The kidney was found to be a large lobulated horseshoe one, which gave some difficulty in delivering. The stone was found in the pelvis, about the size of a lima bean. The pelvis was opened and the stone removed. The incision was closed. The kidney was returned to the abdominal cavity. The incision was partly closed, leaving a small drain. The patient made an uneventful recovery.

Acute Suppurative Gastritis (Specimen).

Edward D. Ferris, M.D.

G. M., age 29. Nationality, Peru. Occupation, steamship fireman.

Family History: Negative.

Previous History: Negative, except for malaria, nine years ago. No venereal history. Moderate drinker of wines.

Present Illness: Onset this a. m., about 6.00 o'clock, while the patient was still in bed. It began with pain in the epigastrium, followed by vomiting, which did not relieve the pain. No radiation of the pain. The patient had not eaten nor drank anything out of the ordinary. The previous day he had gone to bed in the usual state of health. He had never had a similar nor any other gastric disturbance; is able to eat most anything. Bowels regular.

Upon admission his pain was more severe; vomiting had increased, which consisted of bile-stained material. No blood. Little mucus. No history of jaundice. No clay-colored stools.

Physical Examination: Head, Eyes, pupils react to light. No jaundice. Ears, negative.

Mouth, teeth in poor condition; pyorrhea. Tongue, coated; foul breath. Chest—Heart, negative.

Lungs, a few rales in right chest, at tips of scapulae. No harsh breathing.

Abdomen—Symmetrical in outline; no bulging. Abdominal muscles unusually soft. No tenderness elicited on deep palpation, except at costal margin. More marked at tip of ensiform, extending about 4 cms. to left of medium line and 2 cms. to right. Dulness over this area. Remainder of abdomen appears normal. No shifting dulness. No radiation of pain when pressure is made over the tender area.

Faint trace of albumin in urine.

Blood: Leucocytes, 33,200. Polymorphonuclears, 96%.

Operation: Medium abdominal incision. Peritoneum opened from ensiform to umbilicus. Stomach protruding, distended, hard and markedly indurated anteriorly and posteriorly from cardia to pylorus. No obstruction at pylorus. No adhesions. Upon incision into the stomach, pus exuded from between layers. This condition was generalized. No abrasion and no presence of an old ulcer. A tube inserted into the lumen of the stomach and sutured to the stomach and abdominal wall with catgut. Abdomen closed with layer sutures. The patient did not vomit after operation. Free drainage through tube. Rectal feeding. He died on the fifth day after operation from exhaustion and sepsis.

The text-books say gastritis plegmonosa is a very rare affection and is found more frequently in men than in women. There exist two forms, one the primary, or the idiopathic, and the other the metastatic. While the exact cause of primary purulent gastritis is as yet unknown, the symptoms and the course of the disease justify the assumption that it is caused by some microorganism. Possibly in the case just cited it was from his pyorrhea.

Dr. James C. Kennedy:

"I would like to ask the doctor whether he had a pathological report on the specimen."

Dr. Edward D. Ferris:

"No, I think not."

Dr. Frank D. Jennings:

"Was any culture made?"

Dr. Edward D. Ferris:

"No. The specimen was accidentally put into a preserving solution before the culture was made."

PROFESSIONAL GUILD OF KINGS COUNTY.

Report of the President.

At the Annual Meeting of the House of Delegates held in the Kings County Medical Society Building May 21, 1920, the following report of the year's work was made by our President

A review of the first year's history of this organization can do nought but make us enthusiastic about both the necessity for it and the fulfillment of the purpose for which it was created, both of which facts, if one may judge from the liberal financial support recently accorded it, are very firmly entrenched in the minds of the members. Now, more than ever, is it absolutely necessary that the organization exist and that it be perpetuated. In this time of great world unrest, of social and economic upheaval and readjustment, when the forces at work are unseen, intangible but potentially and actually mighty, it behooves us as thinking men to see to it that in the chaos, in the mad rush to change the old established order, no harm is done to the public, nor to us, who serve them, in the matter, all essential, of health —life—and their conservation.

The establishment of the Guild, embracing the associated professions of Medicine, Pharmacy, and Dentistry, marks the dawn of a new era as it means the substitution of the old idea of protest, with dignity, with a more militant one of aggression. To be brief, it means that as citizens we must step into the public arena, to inform the community and its legislators, of the dangers and pitfalls of attractively attired legislation—so-called "welfare legislation." It means further, apart from strictly public interest, that we will have a voice, a medium through which we may make more effective protest and fight, if need be, with greater assurance of success, against those impending legislative shackles, insidious shackles as we know from bitter experience.

As President of the Guild, I assumed office in December, having, as you know, been selected to fill out the term of Dr. Henry G. Webster, who, because of ill health, was unable to serve. Dr. Webster's loss to this organization was distinctly a serious one, as he has brought to it in the beginning a wealth of practical help and advice, based upon an uncommonly fine judicial temperament plus a keen understanding of the problems confronting us. His recovery has been very welcome; and it was with great pleasure that he was heard before the Senate Labor Committee on April 7, when the hearing on the Davenport Bill was held. His talk that day was conceded to be a masterly refutation of the sophistry which characterized the proponents of that measure.

Because of Dr. Webster's inability to serve, most of the tremendous work of the starting of the Guild, of organizing the Assembly District Chapters, of awakening interest in us, of rousing us from our lethargy, devolved on Dr. John J. A. O'Reilly. The work done by him, together with Doctors Heeve, Anderson, Koplowitz, Berkowitz, and others, was colossal. We are under a great obligation to them for had they not been so zealous and untiring the Guild would have died "a borning." It gives me great pleasure to pay this tribute to those devoted workers. In this connection, the Board of Directors and Assembly District Chapter Chairmen must not be passed by as their interest and work have been loyal and unremitting.

The various sub-committees of the Board of Directors have done conspicuously good work. They are the Committee of Public Health, of which Dr. John J. A. O'Reilly is Chairman. His work requires no eulogy. The Committees on Publications and Speakers, Dr. Wm. C. Anderson, Chairman; Ways and Means Committee, Dr. Herbert D. Schenck, Chairman; Finance and Membership, Dr. Abraham Koplowitz, Chairman;—all quietly and unostentatiously have done a great deal of work. Doctors Heeve and Clayton have also contributed lavishly of time and energy in very trying positions.

The problem which presented itself to us in December was to procure an office, and in accordance with the Constitution, an Executive Secretary. The Committee on Ways and Means, of which Dr. Herbert D. Schenck is Chairman, took hold of this matter. They, as is generally known, arranged with the Trustees of the County Society for the use of two rooms in the Library Building as an office and also engaged the services of Dr. A. F. Lent as Secretary.

Dr. Lent will submit his own report but I would like to say, regardless of that, that he has been most active, efficient, and loyal. His long political and legislative experience, together with his medical training and learning, qualified him admirably for the position and he has done yeoman work during the recent Legislative Session. There is no question but that the employment of an Executive Secretary is as big a step forward and it means that we have arrived at the stage where we recognize the fact that certain phases of our work must be delegated to men specially experienced in political and legislative work.

The hearty response to the recent letter advising our members of the need of money must be construed as meaning that the practising physician, dentist, and pharmacist, is determined to have a representative body to care for his interests. The question often arises as to the possibility of conflict with the old established State Societies, especially since the House of Delegates of the State Medical Society passed a resolution authorizing the employment of an Executive Secretary. When the situation is carefully analyzed, however, there seems to be no reason why conflict should be expected or feared. The State Societies of our respective professions have a definite function, chiefly scientific. The function of the Guild is equally definite and can never be displaced or supplanted inasmuch as its organization rests on the Assembly District Chapter as a foundation, a fact of surpassing importance in a civic sense.

For the present and future, the near future, our way seems clear. First, an immediate effort must be made to retain and to increase our membership. The roster should show three thousand at least. Second, such study as we are able to make of the problem of sickness, and, if such a problem exists, to work out a solution for it. In that connection, the Sage Bill of the last session will merit study and it is hoped with that as a basis we may be able next winter to go to Albany with a constructive program. Third, to carry on the work of educating the public through a Speaker's Bureau, and such other means of publicity as may be found effective. Fourth, to take a non-partisan interest in the approaching primary and election to the end that we may know the attitude of the various candidates on Compulsory Health Insurance. Summarizing, it could be said that we must strengthen our organization, study the problems of sickness, work out a method of relief, if one is needed, and take the interest in elections that all good citizens should taken.

The first year in our history has been written, and if I mistake not, written in non-erasable letters of permanence. Let us resolve that the structure to be erected on this foundation shall be one of strength and determination, characterized by unity of purpose and unity of action.

FRANK D. JENNINGS, M. D.

The following officers were elected for the ensuing year:

President, Frank B. Jennings, M. D.	1083 Bushwick Avenue
Vice-president, Wm. C. Anderson, Phar. D.	47 Breevort Place
Secretary, Wm. L. Heeve, M. D.	138 Hancock Street
Treasurer, H. W. Quackenbush, D. D. S.	473 Washington Ave.

Board of Directors

Wm. C. Anderson, Phar. D.	47 Breevort Place
B. B. Berkowitz, M. D.	170 Leonard Street
Arthur H. Bogart, M. D.	47 Seventh Avenue
Furman Clayton, D. D. S.	469 Franklin Ave.
H. C. Croscup, D. D. S.	327 Sterling Place
W. H. Donnelly, M. D.	178 Woodruff Avenue
George D. Hamlin, M. D.	1259 Pacific Street
Wm. L. Heeve, M. D.	138 Hancock Street
J. Richard Kevin, M. D.	252 Gates Avenue
Abraham Koplowitz, M. D.	333 Stone Avenue
F. O. Kraemer, Sr., D. D. S.	225 Schermerhorn St.
J. J. Masterson, M. D.	4721 Ft. Hamilton Pkwy.
J. J. A. O'Reilly, M.D.	405 Union Street
H. W. Quackenbush, D. D. S.	473 Washington Ave.
Jacob H. Rehfuss, Phar. D.	252 Lexington Avenue
Herbert D. Schenck, M. D.	75 Halsey Street
Frank Senior, M. D.	248 Arlington Avenue
Henry B. Smith, Phar. D.	291 S. Fifth Street
Phil, Sundock, Phar. D.	586 Hendrick Street
Maurice William. D. D. S.	87 Norman Avenue

Medical Book News

BOOK REVIEW SUPPLEMENT TO THE *LONG ISLAND MEDICAL JOURNAL*

Edited by JAMES M. WINFIELD, M.D.

All communications, books for review, etc., should be addressed to the Editor of this Department, 1313 Bedford Ave., Brooklyn, New York

1920, No. 7 AUGUST, 1920 2 PAGES

PASTEUR: THE HISTORY OF A MIND.

PASTEUR: THE HISTORY OF A MIND. By Emile Duclaux. Translated by Erwin F. Smith and Florence Hedges, Pathologists of the U. S. Department of Agriculture. Phila. & London. W. B. Saunders Company, 1920. 363 pages. Illustrated. 8vo. Cloth, $5.00.

Seldom has the reviewer had an opportunity of reading so fascinating a book. Duclaux has written a remarkable biography, not of a man but of a mind. With rare skill and sympathy, he takes us back to another age and portrays the habits of thought of the scientific men of 1860. Spontaneous generation was an accepted doctrine, humoral theories of disease were popular and the science of bacteriology was unborn. Upon this scene, Pasteur appeared. A chemist by profession, he first studied the tartrates and their effects upon polarized light. It is a far cry from such a beginning to the Pasteur treatment of rabies and blind chance would appear to have guided him from step to step. But, looking back upon his life with Duclaux, one sees that it was not chance. There was something almost ordained, fateful, inevitable in the manner in which Pasteur, through a logical sequence of events, became one of the pioneers of bacteriology and immunology. Let us trace this progress.

Certain relations between the tartrates and amyl alcohol led Pasteur to study fermentation. His results profoundly effected science. Aside from the value of these studies to the wine industry, they exploded the doctrine of spontaneous generation, replaced philosophic speculation by scientific experiment and caused him to think of the possible relationship of bacteria to disease. It is truly amazing that in these pioneer studies he made so few mistakes, saw so clearly, returned so persistently to the true path after being led astray by the many apparent contradictions at first encountered. His work upon fermentation led to the study of a disease which was ravaging the silk-worm industry of France. After six years, his labors were successful. Two different diseases afflicting silk-worms were identified and the prophylactic measures suggested saved an important industry from ruin. This was his introduction to pathology and gave Pasteur his first clear conception of bacteria as specific causes of disease. He then, for a period, resumed his studies of brewing, with special reference to the anaerobic bacteria found in the beer and vinegar industries. The years spent in studying yeasts and bacteria and the technical methods which he had perfected made Pasteur the logical man to undertake the study of pathogenic bacteria which he did in a series of brilliant experiments on anthrax, septicemia and rabies. His most important results were the discovery of the value of vaccines in preventing anthrax and the attenuated virus known today as the Pasteur treatment of rabies. A grateful public founded the Pasteur Institute in recognition of his services.

One can scarcely praise this book too highly. Of Duclaux, it may be said that he was more than a Boswell; he interprets Pasteur. The translators have caught this spirit admirably and we are indebted to them for a fascinating narrative. If space permitted, one could quote many passages illustrating the remarkable mental qualities of this man—his absorption in his work, his logical progression from step to step, his reliance upon experimental methods in an age when others were philosophizing, the intuition which kept his feet upon the path in an unexplored country and the flashes of vision in which he spoke as a prophet of the future of medicine. Truly, his was one of the great minds of all time and so sympathetically has this biography been written that the reader cannot but feel that Pasteur lives again in these pages.

E. B. Smith.

VAGOTONIA.

VAGOTONIA: A CLINICAL STUDY IN VEGETATIVE NEUROLOGY. By Dr. Hans Eppinger and Dr. Leo Hess. Authorized translation by Walter M. Kraus, A. M., M. D. and Smith Ely Jelliffe, M. D., Ph. D. Second revised and corrected edition. New York, Nervous and Mental Disease Publishing Company, 1917. 93 pages. Illustrated. 8vo. Paper, $1.00.

One of the series of monographs dealing with nervous and mental diseases, edited by White and Jelliffe; this treatise on the neurology of the visceral organs was also translated by Jelliffe in conjunction with Kraus. It is an exhaustive study of the physiology and pathology of the vagus system in the form of that symptom complex termed vagotonia. The authors consider in turn the physiology of the vegetative nervous system and its relation to drugs the diagnosis and clinical picture of vagotonia its combination with other diseases and its relationship to the glands of internal secretion. Attention is drawn to the fact that there scarcely exists a pathology of the nervous system of the visceral organs worthy of the name, for which the main reason up to now has been the scanty knowledge of the physiology of the nervous system, one which at best is hard to understand. The attempt has been made in this work to describe a state of increased irritation in the domain of the extended vagus on the basis of the differentiation of the autonomic and sympathetic nervous systems; that, under certain circumstances, the one system reacts to stimuli which in normal physiological states would scarcely be appreciable to a greater degree and with more intensity than under normal conditions. The authors feel that vagotonia, besides being due to a disturbance of the internal secretions, is the expression of an inferior constitutional make-up. Of course, our knowledge of the underlying causes of vagotonia is all extremely vague and hazy and no one really knows very much about it, but one gains the impression from reading this monograph that earnest pioneer work has been done in an endeavor to throw some light in the dark realms of our ignorance concerning the neurology of the visceral organs.

SEX ATTRACTION.

SEX ATTRACTION. A lecture given at the Michigan State Normal School, July, 1919. By Victor C. Vaughan, M. D., LL. D. St. Louis, C. V. Mosby Company, 1920. 44 pages. 16mo.. Paper, 50 cents.

A mother who read this brief brochure through at one sitting laid it down with this one word of praise: "Our boy ought to read that." Many of the popular books on this and like subjects are either too suggestive because of omissions, or too moral, or insipid. Our noted colleague has found time to write an important book in a man's way with a woman's intuition for the proper word which a great philosopher has likened to a picture properly hung by the master of the assembly. "Sex attraction is the fountain of perpetual youth, long sought by the individual, long possessed by the race. The drinking of its waters endows the race with life eternal, renews each succeeding generation, and will ultimately develop the better man." If some physicians whom each of us know would read this booklet they would not talk so flippantly about a white subject whose beauty they defile by their speech.

A. F. E.

BOOKS RECEIVED.

Books received for review are acknowledged promptly in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases review notices will be promptly published shortly after acknowledgment of receipt has been made in this column.

CHORIOEPITHELIOMA MALIGNUM. Kliniske og Pathologisk Anatomiske Studier. Av Anton Sunde. Kristiania, Emil Moestue, 1920. 286 pages. Illustrated. 8vo.

SAFETY FUNDAMENTALS. Lectures given by Safety Institute of America (Maintaining the American Museum of Safety. New York, Safety) Institute of America, 1920. 228 pages. Illustrated. 8vo.

THE ART OF ANAESTHESIA. By Paluel J. Flagg, M. D. Second Edition, Revised. Phila. & London, J. B. Lippincott Company, 1919. 367 pages, 136 Illustrations. 8vo. Cloth, $4.50.

A DIABETIC MANUAL FOR THE MUTUAL USE OF DOCTOR AND PATIENT. By Elliott P. Joslin, M. D. Second Edition, thoroughly revised. Phila. & New York, Lea and Febiger, 1919. 191 pages. Illustrated. 12mo. Cloth, $1.75.

A MANUAL OF PHYSICAL DIAGNOSIS. By Austin Flint, M. D., LL. D. Eighth Edition. Revised by Henry C. Thatcher, M. S., M. D. Phila. & New York, Lea and Febiger, 1920. 362 pages. Illustrated. 12mo. Cloth, $3.00.

A TEXT-BOOK OF DERMATOLOGY. By J. Darier. Authorized Translation from the Second French Edition, Edited with notes by S. Pollitzer. Phila. & New York, Lea and Febiger, 1920. 769 pages. Illustrated. 8vo. Cloth, $8.50.

SYMPTOMS IN THE DIAGNOSIS OF DISEASE. By Hobart Amory Hare, M. D., B. Sc. Eighth Edition, Thoroughly Revised. Phila. & New York, Lea and Febiger, 1920. 562 pages. Illustrated. 8vo. Cloth, $6.00.

PATHOGENIC MICROORGANISMS. A Practical Manual for Students. Physicians and Health Officers. By William Hallock Park, M. D., and Anna Wessels Williams, M. D., assisted by Charles Krumwiede, Jr., M. D. Seventh Edition, Enlarged and Thoroughly Revised. Phila. & New York, Lea and Febiger, 1920. 786 pages. Illustrated. 8vo. Cloth, $6.00.

SIMPLIFIED INFANT FEEDING. By Roger H. Dennett, B. S., M. D. Second Edition, revised and enlarged. Phila. & London, J. B. Lippincott Company, 1920. 385 pages. Illustrated. 8vo. Cloth, $5.00.

THE TREATMENT OF WOUNDS OF LUNG AND PLEURA. Based on a Study of the Mechanics and Physiology of the Thorax. Artificial Pneumothorax—Thoracentesis—Treatment of Empyema. By Professor Eugenio Morelli. Translated from the Italian by Lincoln Davis and Frederick C. Irving. Boston, W. M. Leonard, 1920. 214 pages. Illustrated. 8vo.

LONG ISLAND MEDICAL JOURNAL

VOL. XIV. SEPTEMBER, 1920 NO. 9

ENCEPHALITIS LETHARGICA EPIDEMICA.*

(So-called "Sleeping Sickness.")

John F. W. Meagher, M. D., F. A. C. P.

Brooklyn, New York.

Description:

THIS condition was first described by Von Enconomo, in 1917, before the Vienna Psychiatric Society, under the name Encephalitis Lethargica. It is well recognized now as a definite clinical entity.

The disease is an infectious one, with low communicability. You rarely see more than one case in the same family. It may attack the central nervous system in any part, but the virus has a prediliction for the parts about the medulla, pons, basal ganglia and ventricles. Clinically we find as the most usual syndrome a disturbed sensorium, cranial nerve paralyses, and lethargy, with a moderate sustained fever. The upper cranial nerves are more often involved than the lower.

But considering that the lesion is a disseminated one, involving various parts of the nervous system, we meet with numerous dissimilar syndromes. The lethargy, which is one of the most regular symptoms of the disease, may vary from mere drowsiness to deep coma. Where the lesions are widespread and involve most of the nervous system, it is referred to under the formidable name of a meningoencephalomyeloneuritis. (Barker). Thus we see that the earlier writers who thought the disease was limited to the brain were mistaken. The patient can ordinarily be awakened from his lethargy as from a sleep. In many of the cases observed this year, restlessness, tremors, even delirium have been usual, and often without the lethargy. The temperature is usually moderate (100°-102° F.) and persists for days or weeks. Severe muscular asthenia may not only go with the disease, but may last even through convalescence.

Types:

Llewellys Barker, Flexner and others say it is too early as yet to emphasize too sharply defined types. One writer speaks of six types, e. g.—with general symptoms, as with any infection, and third nerve paralysis; or with seventh or other cranial nerve involvment; with spinal manifestations; with polyneuritic manifestations; and abortive types with only transient symptoms. Others speak of polyneuritic, meningitic, cerebellar ataxic, hemiplegic, diplegic and monoplegic types; and again lethargic, cataleptic, Parkinsonian, poliomyelitic, polioencephalitic, and psychotic types.

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* Read before the Brooklyn Neurological Society, at the Long Island College Hospital, March 3, 1920.

Were it necessary to speak of types, a simple classification would be motor, senory, lethargic, and psychic types; all having in addition the general symptoms of an infection associated.

One of my cases with a rather subacute onset was regarded by the attending physician as a case of dementia praecox. Another looked like an infection—exhaustion psychosis in the beginning. But it is hardly questionable but that a long list of types—one for every unusual sympton-complex—is very confusing.

And as the disease has lately attracted considerable notice, many conditions associated with lethargy or the opposite,—delirium, but having only slight resemblance to the disease, have been included in this category. I saw a straightforward case of meningitis reported in the literature, as one of Encephalitis Lethargica and yet this report spoke of thousands of cells in the spinal fluid, and two or three well-known microörganisms were recovered,—both of which factors spoke against such a diagnosis.

The disease process is inflammatory, usually non-suppurative, and is disseminated throughout the nervous system—with a predeliction for the gray matter at the base of the brain. It affects especially the structures about the third ventricle, Sylvian aqueduct, the medulla, pons, and ventricles, and the basal ganglia (globus pallidus). As in acute anterior poliomyelitis, the motor predominates over the sensory disturbances. It is a question as to how often the cord is affected. (In only one of my cases.)

The inflammation is accompanied by oedema, and minute hemorrhagic spots. The invasion of cells—which are chiefly of the mononuclear variety—is most noticeable about the blood vessels, particularly the veins. The inflammatory nature of this disease distinguishes it from such a condition as Wernicke's alcoholic polioencephalitis superior—often referred to as the acute ophthalmoplegia of drunkards,—where the focal signs may be quite similar. But in this latter condition we have to deal with marked changes in the vessel walls, with a secondary degeneration of nerve tissue. It is well to remember this in treating alcoholic and arteriosclerotic patients—both of these conditions predisposing to encephalitis. And do not allow co-existing defects, or a vascular insult to mislead you, as we were misled for awhile, in a case of Dr. James MacEvitt's, where we thought we were dealing at first with a case of cerebral thrombosis in a Parkinsonian patient.

It is agreed that all ages—from infancy to advanced age—may be affected. Our youngest case was twelve, our oldest sixty-eight years old.

Etiology:

We do not know the cause of the disease. Bassoe, of Chicago, who has done considerable work in this affection, as late as April 10, 1920, (Journal of the A. M. A.) refers to the "unknown virus" of the disease.

Various microörganisms have been claimed as the cause by different investigators, many of whom have claimed to have produced the disease experimentally in animals. But as both Barker and Flexner have recently said, we do not know the nature of the virus.

Having heard that Strauss, of New York, had discovered the organism of Encephalitis Lethargica, I wrote and asked him whether it was so, thinking he had further data than that published in his writings; but he referred me to his articles on transmission experiments (Journal of Infectious Diseases, Nov. 1919; Journal of the A. M. A., Oct. 4, 1919, etc.). But Flexner, speaking of Loewe, Hirshfield and Strauss' claims of cultivating a microörganism like the globoid bodies found in poliomyelitis, which they felt was the cause of the disease, noted the marked discrepancies between their claims, and the failure of many others, using a similar technique. Other writers describe several other organisms. Thus, House of Chicago describes a green producing coccus. The experiments of Von Wiesner, of Vienna, are well known. He inoculated a monkey from a fatal case of the disease, and the animal dying from a meningo-encephalitis, he recovered by cultivation a diplostreptococcus, resembling organisms found in poliomyelitis cases. The similarity of the pathological lesions, the fact that motor symptoms predominate, and the fact that both diseases may attack both brain and cord, is significant. Gabri, of Rome, isolated what he thought was the causative organism, which he called the micrococcus tetragenus. Others tried to show that the organism was the same as that causing poliomyelitis, only of a different strain.

So with this lack of unanimity as to the causative agent, we may safely say that at the present time we do not know what it is.

The relationship of the disease to influenza has been variously reported. Of course we know that not only influenza, but the virus of many infectious diseases can cause an encephalitis. In fact, read Oppenheim's description, in 1890, of an acute encephalitis following influenza, and it will apply to many of our cases today. But here we are speaking of Epidemic Encephalitis. Has influenza a direct causative relationship to the disease under discussion? We don't really know. For the question has been raised as to whether the Pfeiffer bacillus is the real etiologic factor in influenza. Even if it has been recovered in a few instances from cortical lesions, this is only suggestive. The question might be propounded as to whether or not an influenza epidemic or pandemic would not act as a predisposing factor in causing Epidemic Encephalitis. For even where all have not had influenza, probably all have been exposed to it. House reports several cases of encephalitis, and evidently on the ground of lowered resistance and added susceptibility, adds that while none of his patients had had influenza, they all had been in poor physical health, with low blood pressure, etc. But yet we have all seen cases arise in patients apparently in perfect health. The British Commission appointed to investigate this condition did not think it was connected with influenza.

I can hardly see, therefore, how we can agree with those writers who imply that Epidemic Encephalitis is a mesencephalic form of influenza.

This epidemic or pandemic has been coincident with the Great War (1916-1920). And we know that the privations, food difficulties, bad sanitary conditions, unhygienic ways of living, etc.—the result of war—would favor any epidemic, even one which ordinarily was of low communicability. Then add to this the fact that influenza epidemics have been general for the past three years. So all these factors may be related; but again, as we do not know what the virus of the disease is, it is impossible to be definite as to exactly how the disease is brought about. The present claim that influenza and encephalitis are closely related is not new, for Achard, of Paris, spoke of this a couple of years ago, especially saying that a second attack of influenza may result in encephalitis. This is quite true, but then the question arises, whether such an encephalitis is of the epidemic variety. One of our cases followed such a course. A young, healthy nurse in St. Mary's Hospital, where we had several cases of Epidemic Encephalitis, after two attacks of influenza, developed the disease under discussion, and died after a month's illness.

And Achard adds that the role of influenza as a causative factor is as yet purely controversal; that one doesn't know whether it is the influenza virus, or a super-added virus which causes the cerebral changes. And Dr. A. Netter, of the Faculty of Paris, in 1918, pointed out how conditions favorable to the two diseases appeared analogous.

Last year the cases of polioencephalitis, superior type, were apparently in the great majority. But may it not be that with a wider diffusion of knowledge about this affection, the various other syndromes have been earlier recognized, whereas formerly they passed for other simulating diseases? We do hear it said that cases with severe tremors and without lethargy, with marked delirium, etc., have been more common this year. Probably the increased number of these cases this year is a relative one.

As Llewellys Barker says, until we surely know the virus of influenza on the one hand, and of Epidemic Encephalitis on the other, the question of the relationship, if any, must remain sub-judice. We can only hope that later cultural studies, animal experimentations, etc., will clear up the problem. Till then we are purely speculating, and as Flexner puts it, for the present we must consider the two diseases as being independent. So too, we cannot say positively that the point of entry is the naso-pharynx. The communicability of this disease is no greater than that of acute poliomyelitis. It would be much easier to understand, and less confusing in designating the disease, if we only knew the offending organism. Then we could speak of a particular acute epidemic disease, affecting chiefly the mesencephalon, but also the cortex, cord, etc.;— instead of as now, being compelled to have a rather contradicting nomenclature, e. g. referring to a brain disease, and then to go on and speak of spinal types, polyneuritic types, etc., which seem rather like an anachronism.

We might add that the first cases seen in Austria and in England were thought to have been cases of food poisoning (botulism); a not unnatural conclusion, considering the unusual food conditions due to the war; and also because of the fact that third nerve paralysis is a common early symptom in both conditions.

Epidemic Character:

S. A. K. Wilson, in England, referred to the fact that the disease being epidemic was the singular factor. But cases of encephalitis with lethargy have been described in 1718-1745-1763-1800-1890, and 1892—("nona" epidemic.) Some of these, too, were associated with influenza epidemics; and Leichtenstern's "Post-influenza Encephalitis" resembles this disease clinically.

So the epidemic character of the disease would not characterize it as a new one. Flexner says that the epidemic of 1918-1919, was the first appearance of Encephalitis Lethargia in the United States.

The pandemic began in Austria in 1916; was present in England and France in the spring of 1918; and later was found in our country. When encountered first in the British Expeditionary Forces, it was described as "Infectious Polyneuritis."

My attention was first called to it in London, in Jan. 1919, while temporarily assigned by the Army to the Lancaster Gate Hospital, at which place the late Sir William Osler was making studies of the disease. Later on, in France, I saw two American officers who were suffering from Epidemic Encephalitis, but who were erroneously thought to have been mental cases.

Onset:

The onset is usually acute. It may be slow, however. One writer with considerable experience was exceptional in saying that in most of his cases the onset was subacute. In all but three of mine the onset was quite acute. If acute, you may note indifferent prodromanta, as in other acute infectious conditions. If of slow development, the patient may first complain only of muscular asthenia; of being tired; or of some headache. Or again, instead of general symptoms, focal signs may be the first to attract attention, as facial paralysis, fifth nerve pain;—the latter being complained of in two of my cases. The onset may be very severe.

Symptoms:

From now on the symptoms may vary greatly. Beside the general symptoms of infection, remembering the predeliction of the virus for the neighborhood of the medulla, pons, mid-brain, and basal ganglia—we know what signs to look for. However, keeping in mind also the fact that the lesion is disseminated, and that any part of the nervous system may be involved, varying in degree in the different parts, it is easy to see why the neurological syndromes can vary greatly. So it is surprising, not that we get so many different syndromes, but rather that the common one of lethargy, upper cranial nerve involvement, with a moderate sustained temperature, occurs so regularly. It was this that led some of the early writers to say that the disease was a cerebral one entirely, that the meninges were not involved, etc. By way of analogy one recalls the former belief, now of course known to be an error, that acute poliomyelitis was an anterior horn affair only. In any one case usually only a few of the cranial nerves are involved. In Barker's eight cases, all the cranial nerves except the first and eleventh were involved, one or more nerves figuring in each case. In one of my cases the eleventh was very early and severely involved, and shortly after the tenth, resulting in the most rapidly fatal case I saw,—death ensuing after six days' illness. An unusual case of mine was one with a lesion in the lemniscus and the lumbar enlargement of the cord.

The general symptoms, some of which are due to direct involvment of the cortex are numerous. There may be drowsiness, apathy, or lethargy, or depression; or an opposite set of symptoms may be noticed,—irritability, restlessness, euphoria and delirium; headache, tachycardia, vertigo, asthemia, tremors or twitchings, may exist alone, or what is more usual, be associated with focal symptoms e. g. eye muscle paralysis, facial paralysis, etc.; blurred vision, tinnitus, dysarthria, dysphagia. In one of my cases there were severe spasms of the left cheek and abdominal muscles, and in the left sternocleido and trapezims muscles. Headache and mental symptoms have been very common in my series of cases. The fever is usually persistent, and usually 100°-102° F. For a few days it may be as high as 104°-105° F.

Ophthalmoplegia is extremely common, so that ptosis, strabismus, and complaint of double vision is very frequent. Lesions of the medulla, pons, cortex, cerebellar tract, cord, etc., will result in their characteristic focal signs.

The Lethargy:

The lethargy—from which the disease derives its popular name of "Sleeping Sickness"—is not of itself characteristic of the condition. It is seen in influenza, encephalitis, typhoid, etc. It may vary from mere drowsiness to deep coma. It is a very frequent symptom and occurs in 80% of cases according to Flexner;—90% in my cases. Frequently one sees the patient who is drowsy in the day, become restless, even delirious at night. This one sees now and then in his cases with Parkinsonian symptoms. One can usually awaken the patient as out of a sleep, by merely talking to him; but he immediately drops back into a sleep again. The lethargy may last for a period as short as a day, or as long as a number of weeks.

There have been various explanations advanced as to the cause of this lethargy. A toxaemia as the cause is not so frequently used by most writers, as that it is due to an obstruction or an interruption in the opticthalamus (often affected by the disease) of sensory stimuli from the various parts of the body, which pass by way of the thalamus to the cortex. And as the obstruction is only partial, the patient can be awakened by moderate stimuli,—as calling or shaking him. One writer tried to show that the involvement of the pituitary was one cause of the lethargy. This is purely hypothetical, however.

Without going into them in detail, we might say there are some interesting facts connected with the symptoms and signs.

First, as to the general symptoms. Insomnia may precede the lethargy for a number of days. In one of my patients this was very pronounced, and the insomnia for three days was very rebellious to treatment.

It is questionable whether you can say, as one writer did, that acute delirium necessarily means involvement of the frontal lobes.

The asthenia may be very prolonged and persistent, even throughout convalescence. The temperature while usually not high, may at times be so. Three of my four fatal cases had a high temperature for a long period (103°-105°).

Tachycadia may be a general symptom; or it may be a focal one, due to overwhelming vagus inhibitary control. If the latter, it gives you some concern, for involvement of the vagus nucleus is the one most serious phase of the disease. The focal symptoms may be motor, or sensory.

As in poliomyelitis, the motor symptoms greatly predominate. While the motor symptoms affect particularly the cranial nerves (third and seventh most commonly), still all sorts of motor disturbances may be found, depending of course on the location of the pathological process.

The ophthalmoplegia may be internal or external, or both. Diplopia is usually mild and transitory, often being due to a weakness rather than to a paralysis of the eye muscles. In some cases pupillary changes may be the only focal signs present.

The motor signs may be those of excess (irritation) or of loss (weakness or paralysis). Twitchings and tremors are very common. Localized spasms are not rare. In one of my cases following slight facial paralysis, there resulted a persistent facial spasm. We have all seen more or less rhythmical myoclonic movements, especially in the abdomen and arms, also in the face, chest and legs.

Paralysis of the extremities, as monoplegia, hemiplegia, etc., is very rare compared to spasticity. Involvement of the extra pyramidal nervous system is very common.

Typical Parkinsonian syndromes are very frequent,—the typical sluggish attitude, mask-like facies, loss of facial emotional expression, the characteristic tremor, the monotonous voice, the festinating shuffling gait, the running on attempting to walk, the absence of automatic associated movements. We note a marked hypertonus of the muscles, spasticity of one or more extremities due to the encephalitis involving the lenticular and caudate nuclei, (Globus pallidus.) The flexible hypertonus may be as marked as that seen in some cases of katatonic dementia praecox. This hypertonus may be noted without any other evidence of pyramidal tract disease. Hiccough, due to irritation of the phrenic nerve in the cervical enlargement, was a very troublesome symptom in one of my cases.

Sensory disturbances: these while much less common, may result from lesions in the fifth muclei, lemniscus, corona radiata, cortex, cord, etc. One of my cases, referred by Dr. George C. Owens, showed a complete hemianaesthesia. Hemianopsia is rare; ataxia, particularly of the cerebellar type, has been noted. Cases with severe pain in the extremities recall Foster Kennedy's "Infective Neuronitis (Archives of Neurology and Psychiatry, Dec. 1919).

Cases with spinal involvement alone are often confusing. Barker claims that you may have involvment of the spinal meninges and nerve roots; that you may even have a meningo-radiculo-myelo-encephalitis.

Meningeal involvement, would be shown by headache, root pains, Kernig rarely, Brudynski, increased cell count, and increased globulin. Usually, however, evidences of meningeal involvement are slight. A genuine meningitis can be easily ruled out by an examination of the spinal fluid, and by the clinical signs.

Spinal fluid. The fluid is usually clear, with no film or standing. The number of cells in the spinal fluid usually averages 10-20; they are rarely as high as 100 or more. They are chiefly mononuclear, with some polymorphonuclear. The globulin is usually increased. In some cases both cell count and globulin are not increased. Negative bacterial smears and cultures are the rule. A bloody fluid not accounted for by puncturing a small vein, is sometimes found. This phenomenon occurred in one of my cases.

Blood. The examination of the blood usually shows a slight leucocytosis, nothing like that seen in cases of poliomyelitis. The polymorphonuclear neutrophiles are relatively and absolutely increased (70-90%). The urea content of the blood is also increased.

The urine of course shows nothing characteristic. In alcoholic patients the delirium or coma may suggest uraemia. In one of our fatal cases, there was evidence of a hemorrhagic pyelonephritis.

Diagnosis:

It can be readily seen that with the protean symptom-complexes of this disease, it might be mistaken for a number of common conditions. The diagnosis is made by exclusion.

We will try to differentiate the disease from the most common simulating affections that we see at the bedside. Inasmuch as most of the cases of tuberculous meningitis and acute poliomyelitis which we see, occur in children, we will leave these till later, and first run through the diseases occurring chiefly in adults. In general, it might be stated that the absence of the characteristic signs and symtoms of the stimulating disease is of most importance in diagnosis.

Epidemic cerebro-spinal meningitis can be identified by examination of the spinal fluid, (cells, meningococcus, etc.), the clinical signs, and by the neurological examination.

Typhoid fever can be identified by the characteristic temperature curve, positive Widal, rose spots, enlarged spleen, and by the negative neurological examination.

Uraemia can be identified by the blood chemistry and urine examinations, the phenosulphonephthalein functional test, and the negative neurological examination.

Cerebro-spinal lues can be identified by the positive Wassermann, marked increase of lymphocytes and globulin, and the characteristic colloidal gold curve in the spinal fluid. The onset and course are aiso very different from this disease.

Food poisoning—botulism, is shown by the severe gastro-intestinal disturbances, and by finding the bacillus botulinus.

Certain psychoses will have to be considered in some cases. Two of our cases began with an acute psychosis, one resembling at first a catatonic praecox; the other, an infection-exhaustion psychosis. But in such cases a careful psychiatric examination will show the real facts, especially when combined with a proper neurological-endocrine examination.

A mistake that must be carefully avoided in children is not to confuse Epidemic Encephalitis with tuberculous meningitis. In tuberculous meningitis the onset is usually more insidious, and the course more gradual and chronic, and usually progressive. The spinal fluid shows a greater increase in lymphocytes, and the tubercle bacilli may be recovered, if not by smears, then by culture. As Marie, of Paris, emphatically states, where you have evidences of meningeal irritation, rule out syphilitic meningitis in adults and tuberculous meningitis in children.

The second most likely source of error in children is in mistaking the condition for a poliomyelitis, especially of the superior or bulbo-pontine type. (Heine-Medin disease). Of course we know now that the virus of poliomyelitis can attack the brain-stem, cortex, etc. And we know too, that there is a slight resemblance in the spinal fluid changes in both Epidemic Encephalitis and Acute Poliomyelitis; the increase being less marked in cases of Epidemic Encephalitis. A similar remark would apply to the blood picture.

EPIDEMIC ENCEPHALITIS VS. ACUTE POLIOMYELITIS

LESIONS	Most commonly attacks the bulb, pons, mid-brain, basal gauglia, and about the ventricles. Pia-arachnoid less involved, meningeal involvment slight.	Most commonly attacks cord; mid-brain less commonly. Pia-arachnoid more involved; menigeal involvment more marked.
SPINAL FLUID	Slight or moderate cell increase. Slight globulin increase.	Marked cell increase. Marked globulin increase.
BLOOD	Slight leucocytosis.	Marked leucocytosis.
AGE	All ages; usually adults.	Usually children.
SEASON	Mid-winter (as in meningitis).	Mid-summer and autumn.
FEVER	Moderate, and usually more marked after paralysis is developed.	Marked, and usually highest before paralysis begins.
PARALYSIS	Insidious, as ptosis etc., takes a number of days for paralysis to extend to other muscles; more often in head.	Paralysis early and pronounced. More often in limbs.
FATAL CASES	Deaths are usually late,—usually after weeks.	Often die early.
IN EPIDEMIC	Of encephalitis — you see only a few cases of poliomyelitic syndrome.	Of poliomyelitis—you see only a few cases of encephalitic syndrome.

There are a few other conditions which must be thought of now and then, in making a differential diagnosis.

A diphtheritic paralysis would be easy to rule out by the history, the course, and finding the Klebs-Loeffler bacillus in the smear or culture.

Hysteria is easy to rule out, if you make a careful mental-neurological examination,—getting at the underlying psychological mechanisms. The absence of organic physical signs, sustained temperature, etc., would be significant, and against hysteria; especially at the outset. One of our cases at first, looked like a psychoneurotic condition. When you do not get the patient early, you have to be on the lookout for this.

In one of my cases a brain tumor was suspected, but the previous history, the longer course in cases of tumor, the papilloedema, increased tension of spinal fluid, and the neurological examination, will point to the proper diagnosis.

Brain abscess must also be ruled out in some cases, and may be difficult, as we know that in cases of brain abscess the focal symptoms are not reliable, and the signs of increased intracranial pressure may be slight, or absent. The finding of an etiological factor for abscess, (purulent otitis, rhinitis, wounds, etc.) making a careful neurological and spinal fluid examination will be helpful. Temporo-sphenoidal and frontal abscesses—two very common sites—often give only general, and no local signs.

In elderly patients a cerebral thrombosis affecting the region of the basal ganglia may cause some difficulty in diagnosis, as in one of my cases. A typical Parkinsonian syndrome, where no previous history is obtainable, and where you get the patient late— often the acute features having disappeared—may mislead you. Ordinarily, of course, the onset and development of the diseases are very dissimilar.

Prognosis:

The duration of the disease varies from one to twenty weeks; usually six to eight weeks. There have been exceptional cases reported, of death in a few days; and also rare cases, of recovery in a few days.

It is hard to definitely state the mortality rate. For inasmuch as we have not yet been able to estimate the number of abortive cases, the mortality rate may appear too high. Especially in hospital cases is the rate apt to be high, as they receive the severe cases of the disease. In Austria and France, in the early reports it was given as 20-50%; Von Economo early reported a mortality rate of 54%. In this country one writer reports no deaths in his series of cases, but he admits that this is unusual.

As a rule, recovery is complete. In severe cases, however, the depression, the dizziness, the paralysis or asthenia may persist for long periods. And although the rule is complete recovery with no residuals, there is no doubt but that in the future we may find certain sequellae resulting from the disease. As to whether such conditions as mental depression, epilepsy, multiple sclerosis, genuine paralysis agitans, etc., will be increased or not as a result, we cannot at present definitely say.

The lethargy, of course, is not prognostic. Lesions in the bulb may cause you some apprehension, their proximity to the tenth nuclei making you apprehend severe vagus imvolvement which would cause death. In fact the two chief causes of death are: first, a result of the disease itself—vagus paralysis, (in two of our fatal cases); and second, an intercurrent disease,—especially broncho-pneumonia.

Treatment:

As we do not know the virus, there is no special treatment. Only by recognizing not only the severe, but the abortive cases early and isolating them, will we be able to control the spread of the epidemic.

Barker said that first using lumbar puncture at Johns Hopkins for diagnostic purposes, they found it valuable therapeutically, and so continued its practice. Some men recommend lumbar puncture 1-2 a week, withdrawing 10-20 cc of fluid each time. We tried this for a while, but decided not to employ it as a routine method of treatment, for two reasons: first, because we were convinced that it did not have any real lasting effect on the disease; and second, the condition is not usually associated with marked intracranial tension, nor with severe meningeal involvment. And certainly it can have little effect upon the foci of the disease. However in the individual case, if a man considers that it does good, he should go on with it. Some men felt that it helped to clear up the lethargy; which, too, is difficult to understand, if we accept the most popularly ascribed cause of the lethargy.

The treatment in general respects follows the treatment as for any long drawn-out infectious disease. Rest in bed, and protection from external stimuli are of course indicated. The diet should be fluid at first; later semi-solid; and of course during convalescence, nourishing. Where dysphagia is present, tube feeding through the nose is preferable to rectal feeding. Fluid, and glucose solution may be given by rectum,—by the Murphy drip, if desired. Laxatives are usually needed. A few high colonic irrigations a week may be employed. Only rarely does the heart need special attention; if it does, digitalis, digalen, or strophanthin may be used.

Ice bags and cold packs may be used if the temperature is 103° F. or over. However, it is well to remember that a moderate pyrexia is in itself not bad, as it is supposed to favor the development of Bacteriolysins and antibodies. Plenty of water should be given by mouth. Urotropin, salol, etc., have been used empirically.

The treatment of the individual symptoms follows that for similar complaints elsewhere. The insomnia or the delirium may cause some trouble. For the insomnia veronal in 5-10 grain doses, given in warm milk, is good. For the delirium, we have found paraldehyde in drachm doses, repeated every hour, for three or four doses if necessary, to be the best sedative. It has produced good results in our cases, where morphine and hyoscine have failed. Hot packs are very useful. Prolonged warm baths are only available in special hospitals. If only one nurse is available, it may become necessary to use the restraining sheet, employed as it is in psychiatric institutions.

For the restlessness, the mixed bromides (or bromides in the form of sedobrol given in hot water, and tasting like broth) is usually effectual in doses of gr. 15-20 t. i. d. If bromides are used they should not be exhibited over a long period of time, especially in asthenic cases. The tremor usually needs no treatment of itself. If twitchings are very severe, hysocine hydrobromide alone, or with codeine may be given. Needless to say, if the lethargy is marked, the functions of the bladder must be carefully watched.

Convalescence demands a long rest, a nourishing diet, hydrotherapy and possibly massage. Sajous favors suprarenal extract and strychnine in cases of hypoadrenia, so they might be given in many of these patents with persistent muscular asthenia. Besides general tonic treatment, any coexisting condition, as anaemia, etc. must be attended to.

For paralysis of the extremities, galvanism may be used (10-20 minutes), three times weekly, in combination with massage. But apropos of this, Blatz, following his own experiments, and quoting Langley and other physiologists, (Journal A. M. A. March 27, 1920), raises a doubt as to the validity of our time-honored belief, that massage and galvanism do prevent atrophy of denervated muscles. But until we have further proof to the contrary, it is well to go on with those adjuvants to treatment; the massage at least seems more than plausible.

And in closing these remarks on treatment, I am reminded of a few things that the late Professor Southard, of Harvard, said in an address before the New York Neurological Society, in March, 1920. His address was on "Pragmatic Psychiatry." He spoke of the barren results obtained in many fields of medicine because we were always emphasizing "causes," whereas he felt we should pay more attion to "consequences." And in this disease, even though we find the definite organism and its means of entrance, unless we can develop a specific vaccine or serum against it, will it avail us very much? So we might ask ourselves in what way can we more freely study "consequences" as applied to this particular malady.

In conclusion, however, I would say, that most of us are agreed upon one point, and that is that we are dealing, if not with an entirely new disease, at least with one that has hitherto not been recognized as a definite clinical entity; one with a fairly characteristic pathological status, which is due to a virus as yet not known.

EPIDEMIC ENCEPHALITIS.

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ENCEPHALITIS is an inflammation of the brain substance. There are a number of forms but the term is usually limited to the more acute processes due to bacterial or toxic action. Primary idiopathic encephalitis is not a pathological entity. The encephalitides were for years included with the meningitides. The various symptoms of epidemic encephalitis may occur in many disorders, among these being polioencephalitis hemorrhagic superior of Wernicke, the cerebral form of polioencephalitis, African sleeping sickness, syphilitic meningitis, dementia paralytica, encephalitis caused by anthrax, or other infectious diseases, such as tuberculosis, cerebro-spinal meningitis and more especially influenza. Exogenous poisons, such as carbon monoxid, sulphuric acid and meat and fish (botulism) may also give rise to a similar picture. Some authors see a striking similarity between epidemic encephalitis and African sleeping sickness and the former has, therefore, received the popular name of "sleeping sickness." Kinnier Wilson[1] has pointed out that this description is inaccurate, inasmuch as it is the patient who is lethargic and not the encephalitis. For this reason he has termed the condition "Epidemic Encephalitis."

The earlier accounts of "sleeping sickness" of various kinds are more or less vague. Camerarius[2] mentions the disease following an epidemic of grippe in Tubingen under the name of Schlaf-krankenheit in the second decade of the eighteenth century. In 1768 Lepecq de la Cloture used the term "coma somnolentum" following grippe. In 1835 Ozannan in a history of epidemic diseases described epidemics of catharral fever with "soporosite" as having occurred in Germany in 1745, in Lyons in 1800 and in Milan in 1802. In 1875 Gayet described a patient who had had somnolence and paralysis of the eye muscles. After the pandemic of grippe in 1889 to 1890, the disease was described by a number of authors. The disease occurred in northern Italy, where it was given the name of "nona" and a review of the literature at that time was made by Longuet[3] In 1907, the disease was described in Vienna by von Economo[4] and he used the term lethargic encephalitis in his description. Netter[5] reported an outbreak of similar nature in Paris in 1918 and in the same year a commission in London reported 168 cases of encephalitis lethargica[6]. We are, therefore, forced to the conclusion that we are not dealing with a new disease, but rather with one occurring epidemically and thus attracting more attention.

While the disease is distinctly different clinically from African sleeping sickness, this being a trypanosomal infection carried from person to person by means of the testse fly, yet the pathological findings, as will be shown later in this report, bear a striking resemblance to those found in African sleeping sickness and some authors believe that a pathological differentiation cannot be made.

This history of epidemic encephalitis would indicate its infectious and communicable nature, but up to date, single cases only have been observed in families.

Using the technique devised by Noguchi for the cultivation of spirochetes, Loewe and Strauss[7] have been able to demonstrate that the nasopharyngeal mucous membrane of patients suffering with this condition, harbored a virus which when injected into monkeys and rabbits, produced lesions similar to those found in the brains of human cases. The washings from the nasopharyngeal mucous membrane were used, having been first passed through a Berkefeld filter V. and N. A growth was found in cultures from the 5th to the 7th day, clouding occurring in the region of the kidney tissue and extending upward. Smears from these when stained showed small diplo-bodies occurring singly in diploforms, chains or clumps. They are non-motile. The reaction of the Gram stain depends upon the medium used and the age of the culture. Young cultures and those grown on solid media are usually gram-positive, those grown on fluid, media and older cultures are at times gram-negative. The general appearance of the organisms resembles that described by Flexner and Noguchi in poliomyelitis. It differs from the latter however, in the results obtained in animals and in the susceptibility of rabbits to its influence. The organism has been carried by the authors to the twelfth generation. It has remained alive for as long as six months. Bradford and his co-workers have made similar observations. McIntosh[8] of the London Hospital describes a case which he was able to induce in a monkey inocculated with material from fatal cases in a home for girls. The monkey referred to presented lethargic symptoms and eventually died. Autopsy revealed lesions in the brain similar to those found in epidemic encephalitis. Simon Flexner[9] believes, however, that further work along this line will have to be done in order to clear up the question of the bacteriological origin of this disease.

The lesions found at autopsy in fatal cases of encephalitis of the type under consideration may be quite extensive as well as intensive. So far the lesions described have been limited to the central nervous system, affecting particularly the gray matter of the midbrain and hindbrain. The regions about the third ventricle, the acqueduct of Sylvius, the lateral ventricle, the optic thalamus, the pons and medulla are particularly affected. The spinal cord is not regularly involved. The lesions consist of cellular collections, chiefly monoculear in nature, plasma cells, lymphocytes and polyblasts. Polymorphonuclear cells are also found but not in any remarkable number. The lesions occur in localized and diffuse forms. They are sometimes associated with vascular affections. The paralyses of the ocular, facial and other nerves arise usually from the cellular involvement of the motor nuclei of these nerves. Bassoe and Hassin[10] report the pathological findings of three cases of epidemic encephalitis. They are of the opinion that histologically the disease does not differ from the African sleeping sickness. According to their findings the brains microscopically appeared practically normal. In summing up their histological findings they state that the mesodermic (interstitial) and ectodermic (parenchymatous) elements are concerned. In the cortex the parenchymatous changes predominate; in other regions (peduncles, internal, capsule, lower portions of the pons, bulb and cord) the interstitial changes are more prominently in evidence, while in the basal ganglia, substantia nigra and tegmental region of the pons, both types are equally in evidence. The parenchymatous and interstitial changes may therefore exist independently of each other and an absolute relation between them cannot be claimed. Both of these changes are, according to Nissl and his school, essential and characteristic of an encephalitis and resemble in their features dementia paralytica, sleeping sickness and poliomyelitis. By the absence of foci of softening, of large hemorrhages, of glitter cells, of polymorphonuclear elements, the lethargic form of encephalitis in their cases, at least, differed from other types like Wernicke's polioencephalitis superior hemorrhagica, acute hemorrhagic encephalitis, influenza encephalitis, traumatic and experimental encephalitis. They are of the opinion that epidemic encephalitis distinctly differs from the condition previously described as influenza encephalitis. They further state that the resemblance to African sleeping sickness is so marked that a differential diagnosis on histological basis is not possible. It is also difficult to differentiate the brain changes of epidemic encephalitis from those of dementia paralytica but the changes in the latter are principally in the cortex and in the vascular walls. In poliomyelitis the changes are chiefly confined to the spinal cord, the cerebral forms being infrequent. Bassoe and Hassin finally suggest that because of the similarity to African sleeping sickness, epidemic encephalitis may be caused by a parasite akin to a trypanosome.

Calhoun[11] reporting the histological changes of the brain and spinal cord in a case presenting a post influenzal lethargic encephalitis, confirms the findings of Bassoe and Hassin, particularly as regards the resemblance in the pathology of African sleeping sickness and epidemic encephalitis. She believes that the combination of lethargy with cranial nerve involvement depends not on a specific virus but on the location within the brain of the lesions produced by varying causes. Mauthner localizes the sleeping center in the floor of the fourth ventricle as the result of findings in nona. MacNalty believes that sleep and lethargy are due not to a special sleep control center but to an interruption of the sensory stimuli, on the way to the cortex, by lesions in the thalamic region. This shutting off of the outside world reproduced to a pathological degree the mechanism of normal sleep. Undoubtedly the same syndrome is produced in cases of acute polioencephalitis and botulism. Calhoun believes further that the lethargic encephalitis syndrome should be considered in the same light as Landry's paralysis or the Brown-Sequard syndrome,—that is, as a localizing syndrome resulting from various causes.

The clinical signs and symptoms of epidemic encephalitis are referable to the lesions of the central nervous system. Simon Flexner believes that it is too early in the study of the disease to set up hard and fast clinical types. It should also be remembered that we are dealing with a condition which has occurred epidemically and that it is unwise to describe separate types in the midst of an epidemic. MacNalty has suggested a comprehensive classification and has divided the disease into seven different types, as follows:

(a) a clinical affection of the third pair of nerves

(b) affections of the brain stem and bulb
(c) affections of the long tracts
(d) the ataxic type
(e) affections of the cerebral cortex
(f) cases of evidence with spinal cord involvement
(g) the polyneuritic type in which affection of the peripheral nerve is suspected

Tilney and Riley[12] describe eight types which they regard as fairly well defined, namely:

(a) the lethargic type
(b) the cataleptic type
(c) the paralysis agitans type
(d) the polioencephalitic type
(e) the anterior poliomyelitic type
(f) the posterior poliomyelitic type
(g) the epilepto-maniacal type
(h) the acute psychotic type

They also mention another type, that occurring in the new born, encephalitis neonatorum.

Clinically there is a certain amount of fever in the early stages. A rise in temperature may not be observed but it may have been overlooked. The rise in temperature is usually mild and averages from 101 degrees to 102 degrees F. but may go higher. It generally lasts about one week but may last from ten days to two weeks. In many of the cases there is observed a prodromal sore throat, tonsilitis or bronchitis. At times the patients complain of feeling distinctly chilly with pains all over the body but severe rigor is rare. During the present epidemic diplopia, blurred vision and photophobia have been frequently complained of by the patients at the onset of the disease. Some of the patients gave a history which suggested an influenzal like infection but could not be definitely identified as such. The most marked symptom in most of the cases occurring both in the present epidemic and that of last year, has been the lethargy which may come on suddenly or gradually. There have been many abortive cases this year in which the lethargy has not been a prominent symptom. In fact the epidemic of hiccoughs which occurred in New York City last Fall has been looked upon by some physicians as the forerunner of the present epidemic. The patients having lethargy are stupid and sleep a great deal during the day but most of them can be easily aroused and answer questions relevantly and coherently. Many of the patients whom I have seen during the present epidemic have shown an acute delirious mental reaction, often attended by marked restlessness and resistance. I have seen seven patients in the Psychopathic Service of Bellevue Hospital who presented such a reaction. One of them merged into a Korsakow's Syndrome with the confusion and confabulation characteristic of that disorder but without the polyneuritis. One female patient whom I have recently seen, presented at first a marked restlessness in her conduct, followed by a drowsy lethargic reaction, this in turn being replaced by a noisy restless state similar to the manic reaction seen in manic depressive mental conditions. Another patient recently seen presented a cataleptic like reaction, arms and legs being held rigidly and with this was presented a stuporous condition from which she could not be aroused by stimuli of various kinds. While the paralysis agitans type was quite frequently seen in last year's epidemic, I have seen very few of them this year. There has been present in many of the cases observed, a peculiar ironing out of the facial expression and weakness of the muscles supplied by the seventh cranial nerve has been seen in some cases. I have seen one case in which ther was a weakness of the muscles supplied by the seventh cranial nerve, on one side of the body and a paresis of the arm and leg on the opposite side. Bassoe has recently reported a similar case. The condition suggests a mild pons lesion, involving the facial nerve at its exit from the pons or in its nucleus. Cases have been reported in which there was considerable deglutition difficulty, pointing to an involvement of the ninth and tenth cranial nerves. Two other patients observed by me, presented a generalized choreiform twitching of all the extremities, involving the head also. I have at present a young girl under my care who presents a constant coarse jerking movement of the entire left upper extremity, the flexors seeming to be the muscles chiefly affected and also the pectorales, the supra and infraspinati and the serratus magnus. The movement is constant, rhythmical and averages about forty contractions to the minute. A peculiar muscular contraction of the abdominal recti muscles was seen in four cases. The contraction involved the upper part of one muscle and the lower part of the other one, was rhythmical and in each case averaged about forty contractions to the minute. The lesion here would seem to be an anterior radicular one, as there has been no sensory disturbance and a condition involving the posterior roots has been reported by Pardee as "descending radiculitis." Polyneuritic symptoms were seen in one case. Sluggish pupillary reactions have been not infrequent and in one patient presenting irregular pupils with absence of light reaction, a diagnosis of dementia paralytica was at first made, especially as the cell count in the spinal fluid was 125. The Wassermann reactions were returned negative and established the diagnosis. The reaction of the deep reflexes has been quite variable in some cases. In one case in particular during the early stages there was a marked reduction in all of the deep reflexes. Later these were distinctly exaggerated. At times the reflexes were varied from day to day without any apparent pathological cause thereof. In another case the abdominal reflexes were absent at the onset to return later during the further course of the disease. In most cases there has been no noticeable difference in the action of the reflexes. Another striking feature which has appealed to me in all of the cases is the marked dehydration of the patient as evidenced by the dry leathery like condition of the mucous membranes of the lips, mouth and nose and also by the dryness of the tongue. The patients as a rule have been constipated. The examination of the blood has revealed nothing in the cultures. The red cells have been normal in count and appearance and the white cells have varied from 12,000 to 22,000. The differential counts showed nothing unusual. The spinal fluid in all cases was clear and generally under increased pressure. There was a slightly increased globulin content. The cell count varied from 12 to 125 cells, the latter being the highest I have seen reported. The usual count is about 15 cells. The mononuclears predominated. The Wassermann reaction was negative in both the blood and spinal fluid in all cases. The colloidal gold reaction showed a weak curve in the luetic zone in all cases 0001221000 being a typical reaction. The urine showed no unusual reaction in any of the cases seen.

Although the condition has presented itself following an influenza epidemic in every instance in which reliable data is available and although the onset in many cases resembles many of the symptoms common to influenza, the concensus of opinion at the present time seems to be against the theory that epidemic encephalitis is of influenzal origin. Dr. Bassoe[13] studied eleven cases and in none of these had there been any definite preceding influenza. MacNalty regards the condition as a general infectious disease characterized by manifestations, originating in the central nervous system. The pathological picture differs from that found in influenzal encephalitis.

The question of the relationship which this disease bears to poliomyelitis has not yet been settled. MacNalty suggests that the relation between them may be that known to exist between typhoid and para-typhoid fever.

The diagnosis is not extremely difficult except in the abortive cases. The disease may be mistaken for hysteria, poliomyelitis, infectious polyneuritis or for tuberculous meningitis. From this and cerebro-spinal fever, the diagnosis may be made by lumbar puncture, inasmuch as the spinal fluid in epidemic encephalitis is changed but little in the majority of cases.

The prognosis has not been as grave as one would judge from the general appearance of the patient. In a total of 168 cases, 37 deaths were reported.

Of 20 cases reported by Tilney and Riley, 25% terminated fatally. None of the 15 cases seen by me in the present epidemic have terminated fatally. The average duration of the disease is difficult to estimate at present, but seems to be almost eight weeks. Some cases which are rapidly fatal, terminate after a few days. On the other hand, some of the abortive cases clear up rapidly.

No specific therapy has been developed in the treatment of this condition. Some physicians believe that the condition is materially benefited by extract of the whole pituitary gland. Others see no effect from this medication. High colonic normal saline irrigations, either saline or hypertonic glucose solutions are of very material benefit. In several cases which I have seen, marked improvement has been noticed from normal saline given intravenously. Others have noticed marked benefit from glucose given intravenously. The diet should be liberal, practically everything but meat being permitted. Elimination is very important and the bowels and kidneys should be kept active. As much water as it is possible to administer by mouth should be given. Repeated lumbar punctures are advantageous in severe cases.

Psychotic manifestations require special treatment, such as hot packs and sedatives, paraldehyde being particularly useful for this purpose.

During convalescence, the patients should not be permitted to to get out of bed too early as relapses are prone to occur. Because of the extreme asthenia, the convalescence should be a prolonged one and tonics should be given, preferably strychnine with iron, or the cacodylate of sodium by hypo. For residual paralyses, massage and electro-therapy are invaluable.

My best thanks are due to Dr. Menas S. Gregory, Director of the Psychopathic Service at Bellevue Hospital, for permission to use the clinical matter from the Psychopathic Service.

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Notice of Fall Meeting

Associated Physicians of Long Island

Advertising page xxii

EDITORIAL

HEALTH INSURANCE.

It is interesting to note that the German papers are commenting on the attitude of the Medical Profession in America toward Compulsory Health Insurance.

The Medical Clinic of Berlin Comments on the matter editorially and apparently admits that the system in vogue in Germany has practically reduced to State servitude a former free and independent profession. It is further remarked that negotiations for the renewal of contracts were abruptly broken off when fees of twelve marks for house visits and eight marks for office calls were suggested. At the present depreciated value of the mark, this represents about twenty-five and seventeen cents respectively in American money, and laying aside all question of the present condition of foreign exchange and the purchasing power of the mark, the real significance of this report lies in the fact that private practice in Germany has become almost a thing of the past, and that the State has virtually assumed control of the practice of medicine. This is precisely the situation that is foreseen and dreaded by physicians in this country, who realize that control by the State of the conditions of practice, means complete loss of independent action. Once the power of assigning a physician's field of activity is placed in the hands of the State and the subsequent steps to compel socialization are easy. How this problem is to be met by American Physicians is by no means clear. One attempt at solution may be recognized in the decision of the New York Police Department to collect funds to both equip and endow a hospital in Brooklyn for policemen and their dependants, a group estimated at some 60000 persons. The plan suggested calls for a fund of 5000000 dollars of which approximately a half shall be used for endowment and maintenance. No announcement has yet been made as to how the institution shall be manned, nor what the approximate cost to the individual for treatment is likely to be. The idea of voluntary cooperation, which lies at the bottom of this plan, and which could be developed by utilizing the already salaried surgeons of the Police Department, thereby centralizing their work and giving them added efficiency and broader opportunity is worth consideration, as a plan which might be expanded to cover groups of citizens whose incomes are at present inadequate to command the better sort of medical care but whose importance to the community makes it essential that it should be placed within their reach. The scheme of voluntary cooperation is free from many of the drawbacks inherent in plans that are initiated and controlled by the State, and it may be that a comprehensive plan for voluntary enrollment of groups of citizens under proper financial conditions could be so arranged as to bring about a readjustment of the present field of medical practice without interfering with the opportunities of the physician for normal growth that is inherent in State Socialism.

The objection of thinking physicians to the plans so far brought forward arises from their certain knowledge of two unavoidable resultst—he fact that the beneficiaries would not receive the improved medical care that is promised and that physicians themselves would tend to sink into mediocrity.

H. G. W.

ALCOHOL AND ACCIDENT.

Reports from New York Ambulance Service Board show, that during the first two months of 1919 there were 774 alcoholic cases for which ambulance calls were sent out. During the same two months in 1920 there were only 440 calls. For the same period Bellevue Hospital reported 228 calls in 1919, and only 31 in 1920. This is a startling record, but it shows the immediate practical result of the suppression of the saloon. The Journal has heretofore avoided any discussion upon prohibition as it has felt that medical opinion has not been absolutely unanimous, and that statements made in medical journals, either for or against alcohol, are only too apt to be misquoted. These figures, however, are so startling that they are worthy of consideration. The *Social Hygiene Bulletin* suggests that this decrease in alcoholic patients will make room for about 7000 patients a year in Bellevue, and if other hospitals can figure a saving that is at all proportionate it would be well worth while to consider whether the space could not profitably be used for the care of venereal patients, who at present are being denied hospital attention. G. S. Peterkin of Seattle has published a standardized system for the treatment of acute gonorrhoea, that is applicable to any general hospital, and which might well be agitated among those institutions which at present regard both gonorrhoea and syphilis as anathema. Indeed the Board of Managers of one semi-private general hospital was surprised beyond measure when they learned of the large percentage of patients admitted with positive Wassermanns. They even contemplated refusing to admit cases of aortic valvular disease, because so many were syphilitic, and it has been difficult to persuade them that patients admitted with intercurrent diseases who have distinct tertiary syphilis, should be permitted to receive salvarsan, because of the dreadful bogy that the word conjures up. The *Bulletin's* suggestion is one that deserves wide discussion and serious consideration.

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Cook, William H.,
2402 Silver St., Ridgewood, N. Y.
Cooke, Tyler Gibson,
827 Stoothoff Ave., Richmond Hill, N. Y.
Cooley, James Seth............Mineola, N. Y.
Corwith, Silas R..............Bellport, N. Y.
Courten, Henry C.,
923 Church St., Richmond Hill, N. Y.
Cox, Chester L..........Locust Valley, N. Y.
Crawford, James J.,
311 Gamma Pl., Glendale, N. Y.

D'Albora, John B...........83 Clermont Ave.
Dalton, Eugene Smith......353 East 17th St.
Dangler, Henry William....455 Classon Ave.
Dattlebaum, Maurise J.........345 Stone Ave.
Davis, William Henry
Millerton, Dutchess Co., N. Y.
Deeley, George Edward....132 Montague St.
De Forest, Henry Pelouze,
59 West 54th St., New York, N. Y.
Delatour, H. Beeckman......73 Eighth Ave.
De Lorme, Murrett F.........61 Greene Ave.
De Nyse, Percy Lott........681 Hancock St.

De Waltoff, Dayve...............451 47th St.
Dexter, Thurston Hopkins....411 Hancock St.
De Yoanna, Gaetano.......111 Pierrepont St.
Dickert, John G...........828 Bushwick Ave.
Dixon, Herbert S.............141 Lewis Ave.
Dobkin, Nicholas............182 Vernon Ave.
Dorney, Edward R...........309 Eleventh St.
Dougherty, John E...............
Dowd, James B.,
4201 Fort Hamilton, Parkway
Downey, James Maurice......381 Clinton St.
Doyle, George J...........287 Clermont Ave.
Driscoll, Joseph Alexander
171 Washington Park
Du Cret, Herbert Sperry..169 New York Ave.
Duffield, Warren L..........119 Berkeley Pl.
Duggan, Homer V...........1253 Bergen St.
Duncan, Cameron............462 Ocean Ave.
Durham, Roger.................322 Park Pl.
Durkee, John W..............142 Clinton St.
Durkin, William J...........2353 Foster Ave.
Durning, Charles Francis..2101 Voorhees Ave.
Durrin, William C..............1215 Dean St.
Duryea, Chester Ford.........784 Carroll St.
Dusseldorf, Louis M...........392 Union St.

Davis, Milton B.............Patchogue, N.Y.
de Graffenried, Anthony Foster
Lawrence Boulevard and 3d St., Bayside, N.Y.
De Lano, Frank......Rockville Center, N.Y.
Derby, Richard............Oyster Bay, N.Y.
Dick, John F.,
227 Sanford Ave., Flushing, N.Y.
Dietrich, Albert E..........Bay Shore, N.Y.
Dold, William Elliott
River Crest, Astoria, N.Y.
Dorman, Franklin Abbott......Orient, N.Y.
Dow, Horace D...............Maspeth, N.Y.
Dowsey, George H.........Great Neck, N.Y.
Duggan, Edward F.....Valley Stream, N.Y.
Durand, A. Walter,
61 Broadway, New York, N.Y.
Durgin, Delmar Dennis...Central Islip, N.Y.

Eastman, Frederick C.........1268 Bergen St.
Eastmond, Charles............92 Gates Ave.
Ehrhardt, Charles F............146 Maple St.
Eichacker, Henry Charles 2355 Putnam Ave.
Eichacker, Henry Fredrick,
716 Schenck Ave.
Emery, Z. Taylor..66 Broadway, N. Y., N.Y.
Enger, Anton................169 Clinton St.
Ennis, William Murray...........31 First Pl.
Erdmann, Adolph F.............458 Ninth St.
Estabrook, C. R.........9408 Flatlands Ave.
Edwards, David..........Easthampton, N.Y.
Elliott, Robert M.,
Willard State Hospital, Willard, N.Y.
Ellis, Hubert
Lyon Ave. and McIntosh St., East Elmhurst, N.Y.

Fairbairn, Henry Arnold..249 McDonough St.
Ferguson, Francis C..............560 58th St.
Fett, Herbert C................113 Lincoln Pl.
Fettes, David Stewart........1402 Avenue P.
Fielding, George Bennett.......350 Ninth St.
Figueira, Mathias........14 Stuyvesant Ave.
Finch, William Young....124 St. Marks Ave.
Fisher, Charles Mackall....317 Ovington Ave.
Fisher, George Garthwaite, 271 New York Ave.
Fisher, Lamont H.............1112 Dean St.
Fisher, Louis..........132 Pennsylvania Ave.
Fiske, Edwin Howe.......152 Lafayette Ave.
Fiske, E. Rodney..............1172 Dean St.
Fitzsimmons, James Cleland.....451 Gold St.
Flannery, William J.......238 Arlington Ave.
Fleming, James W..........471 Bedford Ave.
Fogarty, Thomas Louis 9 Prospect Park, West
Fowler, Royale Hamilton..280 Jefferson Ave.
Fowler, Russell Story......301 De Kalb Ave.
Fox, James W...........418 Fifty-fourth St.
Franciscus, Henry........718 Bushwick Ave.
Freeman, William Hazen..263 Arlington Ave.
Frei, Emil.......................24 Linden St.
French, Thomas Rushmore, 150 Joralemon St.
Frischbier Otto...........690 Bushwick Ave.
Fuhs, Jacob.....................871 Park Pl.
Funk, Merton Layton.......1626 Foster Ave.

Fensterer, Gustav A.......Floral Park, N.Y.
Field, E. Everett,
472 Lefferts Ave., Richmond Hill, N.Y.
Finch, Frederick Arlington (Emeritus)
Stony Brook, N.Y.
Fincke, Harry Stark,
655 Academy St., Astoria, N. Y.
Fisher, Henry Archbold,
25 Bergen Ave., Jamaica, N.Y.
Flemming, Edward A.
213 113th St. Richmond Hill, N.Y.

Fletcher, Frederick W........Freeport, N.Y.
1 West Sixth 8th St., New York, N. Y.
Forest, John A...........Farmingdale, N.Y.
Foster, J. Mansfield.....Valley Stream, N.Y.
Foster, W. E..................Babylon, N.Y.
Freitag, John Daniel, Jr.,
9 105th St., Richmond Hill, N.Y.
Frey, Walter G.,
205 Grand Ave., Astoria, N.Y.
Frothingham, Edward....Cannonsville, N.Y.

Galloway, F. Maxwell.......156 Windsor Pl.
Gardiner, Charles Edward
50 Schermerhorn St.
Garlick, Ralph H.......478 Seventy-fifth St.
Geis, Norman Philip..........1325 Pacific St.
Genthner, Philip J..............96 Sixth Ave.
Giantieri, Victor........163 Washington Park
Gibson, Edward Tinkham......57 Halsey St.
Gibson, Gordon.................176 State St.
Gildersleeve, Donald Maurice
E. W. Bliss Co., Foot 53d St.
Gildersleeve, John Andrew....7325 14th Ave.
Gilligan, Alexander........404 Franklin Ave.
Gilmartin, Albert Edward....570 Leonard St.
Giovinco, Calogero........795 Bushwick Ave.
Gissel, Henry William......6901 Second Ave.
Gissler, Edwin Fred.............32 Cedar St.
Given, James B.................463 Ninth St.
Glynn, James P.................474 Ninth St.
Goodfellow, Eugene H.5708 Fourteenth Ave.
Goodrich, Charles H.............280 Park Pl.
Gordon, Charles Albert......847 Putnam Ave.
Gordon, Murray Burns....4402 Twelfth Ave.
Gordon, Onslow Allen......71 Halsey St.
Gordon, Onslow Allen, Jr.......71 Halsey St.

Goubeaud, Henry J..........518 Carlton Ave.
Graham, Henry Flack..........474 First St.
Graham, John Cooper..340 Seventhy-third St.
Grant, Walter Scott......378 McDonough St.
Gray, Irving..................1922 Bergen St.
Gray, R. C...........394a Layfayette Ave.
Gray, Robert Howe............768 Halsey St.
Greeley, Horace ....140 Clinton St.
Green, Edward Everett..456 Washington Ave.
Green, Samuel William......161 Clinton St.
Griffin, Edwin Albert........165 Hancock St.
Griffin, John....................45 Lefferts Pl.
Griswold, William Church,
78 Prospect Park, West
Garvin, William C.........Kings Park, N. Y.
Gibbons, Rupert Vincent....Oyster Bay, N. Y.
Gibson, Horatio Gates, Jr.,
Central Islip, N. Y.
Gibson, William B.........Huntington, N. Y.
Goldberg, Abraham,
624 Boulevard, Rockaway Beach, N. Y.
Goodwin, Norman Charles,
3308 Ridgewood Ave., Richmond Hill, N. Y.
Grimmer, Roy Duell......Hempstead, N. Y.

Hagan, Cornelius Edward
461 Ridgewood Ave.
Hall, Gordon R...............164 Clinton St.
Hall, Robert Wellington....750 East 18th St.
Hamlin, Cyrus..............102 Hancock St.
Hamlin, George D............1259 Pacific St.
Hancock, James Cole......135 Cambridge Pl.
Hangarter, Andrew Henry......168 Stagg St.
Hansen, Anthony Hans.........1830 84th St.
Hargitt, Charles A......17 Schermerhorn St.
Harman, Eugene Paul....563 St. Marks Ave.
Harnden, Frank............473 St. Johns Pl.
Harrington, Burt D...........525 Ocean Ave.
Harris, Burton..............475 Greene Ave.
Harris, Isham G.,
Brooklyn State Hospital, Brooklyn, N. Y.
Hartung, Emil F..............358 Marion St.
Hatfield, Richard Henry......1489 Union St.
Haupt, William Carl.........979 Lorimer St.
Heeve, William Lewis........138 Hancock St.
Helprin, Benjamin Edel.......259 Utica Ave.
Henry, Morris Walgrove..2589 Bedford Ave.
Herbert, William............778 Putnam Ave.
Hermann, Solomon............4903 14th Ave.
Herriman, Frank Richard,
253 Madison Ave., New York, N. Y.
Herriman, Rudolph F.....1076 Bushwick Ave.
Heuser, Gerard William....1050 Hancock St.
Heymann, Isaac Pickard......142 Henry St.
Hicks, Edward E...............1168 Dean St.
Higgins, Thomas Vincent...982 Bedford Ave.
Hill, Roy A.,
Greenpoint Hospital, Brooklyn, N. Y.
Hills, Rollin.....................271 77th St.
Holden, Frederick C..........198 Lincoln Pl.
Hopper, Magnus Tate..379 Washington Ave.
Horni, John..............447 Nostrand Ave.
Howard, Tasker.............46 Sidney Pl.
Howe, Alexander C......40 South Oxford St.
Hoxsie, Edward Hazard....159 Hancock St.
Hubbard, William Stimpson 1138 Bergen St.
Huffman, Otto V...........771 Madison Ave.
Hull, Thomas H.................87 Lee Ave.
Hulse, Clarence H...........83 Norman Ave.
Humpstone, O. Paul....327 Washington Ave.
Hunter, G. H. V...............67 Hanson Pl.
Hyde, Clarence Reginald....242 Henry St.
Hynes, Edward G.......80 Ocean Boulevard

Hadley, William Wallace.....Sea Cliff, N. Y.
Hala, William Wendell,
660 Academy St., Long Island City, N. Y.
Hall, Ralph William......Stony Brook, N. Y.
Hallinan, Joseph Daniel,
29 Lefferts Ave., Richmond Hill, N. Y.
Halsey, Hugh..................Southampton
Halsey, James L..................Islip, N. Y.
Harris, Daniel A...........Whitestone, N. Y.
Hatfield, Frank P.,
55 Washington Ave., Rockaway Park, N. Y.
Hatton, Henry C.,
Wicks St., Morris Park, N. Y.
Hawkes, Forbes,
124 East Sixty-fifth St., New York, N. Y.
Henderson, Alton Sanford.Huntington, N. Y.
Hewlett, Harold E............Babylon, N. Y.
Heyman, Marcus B.,
Ward's Island, New York, N. Y.
Hieber, George Matthew,
4 Washington Ave., Richmond Hill, N. Y.
Higgins, Aaron L., Rockville Centre, N. Y.
Holcomb, Henry V...........Freeport, N. Y.
Hoole, Lester Page............Quogue, N. Y.
Houghton, Harris A...........Bayside, N. Y.
Howard, James Gilbert,
17 Bass Ave., South Ozone Park, N. Y.
Hulse, William A. ....Bay Shore, N. Y.
Hulst, Francis A...............Sayville, N. Y.
Humphreys, George H.,
46 Jeffrey Ave., Jamaica
Hutcheson, J. Ensor..Rockville Centre, N. Y.
Hutcheson, Robert F........Cedarhurst, N. Y.
Hyland, Edward J.,
186 Shelton Ave., Jamaica, N. Y.

Iler, George Hills............169 Hancock St.
Ingalls, James W........328 Stuyvesant Ave.
Iszard, Walter R..........141 St. Marks Ave.
Ives, Robert F................962 Ocean Ave.

Jacobson, Arthur Clarence....115 Johnson St.
Jameson, P. Chalmers......139 Montague St.
Janson, Christian..........978 Bushwick Ave.
Jennings, Frank Dormer..1083 Bushwick Ave.
Jennings, John Edward,
23 South Portland Ave.
Jewett, Frederick A.......282 Hancock St.
Jewett, William Averill..380 Vanderbilt Ave.
Joachim, Henry.................871 Park Pl.
Johnston, Charles L.........232 Hancock St.
Johnston, Evan Melrose....61 Richmond St.
Johnston, Reuben Thomas,
615 Eastern Parkway
Judd, Albert Martin..........375 Grand Ave.

Jackman, Luther Taylor....Huntington, N. Y.
Jaques, Arthur D............Lynbrook, N. Y.
Jenner, William Edward
229 Elm St., Richmond Hill, N. Y.
Jessup, William H.,
Cornwell Ave., Hollis, N. Y.

Kahn, Moses.................702a Halsey St.

Kahn, Oscar J.............344 East Third St.
Kalvin, Henry L..............919 Avenue J.
Kandt, Hartwig........2209 Clarendon Road
Kasper, Gerard..........371 McDonough St.
Katzenbogen, Arthur Saul,
1509 Eastern Parkway, N. Y.
Keenan, Albert J.........251 New York Ave.
Keil, Peter Augustus....164 Arlington Ave.
Kemp, Henry William......2442 Cornelia St.
Kene, Joseph J............64 Greene Ave.
Kenna, Richard J...............105 Reid Ave.
Kennedy, James Charles.762 Willoughby Ave.
Kerr, Legrand..............462 Clinton Ave.
Kessler, George L...........588 Bedford Ave.
Ketcham, George F...........378 Adelphi St.
Kevin, J. Richard.............252 Gates Ave.
Keyes, Frank Perkins..........83 Hanson Pl.
Keyes, James J...................226 17th St.
King, Samuel T...............351 Adelphi St.
Kinloch, Robert Ernest....222 Hancock St.
Kinne, William................48 Fourth Ave.
Koehler, Charles George, Jr.,
859 Jefferson Ave. (Resig. 1, 1, 1921).
Konthers Adolph Frederick
184 Ridgewood Ave.

Kane, Julius Theodore,
9 Smith St., Jamaica, N. Y.
Keays, Frederick L.........Great Neck, N. Y.
Kent, Ernest Ellsworth
70 Bergen Ave., Jamaica, N. Y.
Kerby, Walter Harold
526 Woodhaven Ave., Woodhaven, N. Y.
Kerrigan, James A.........Hempstead, N. Y.
Kittell, Martin M.,
101 Herriman Ave., Jamaica, N. Y.
Krauss, Joseph George,
95 Grand St., Elmhurst, N. Y.

Lange, Hugo.................1245 Dean St.
Langworthy, Howard T....480 Franklin Ave.
Lasher, Frank Hermance......1127 Dean St.
Lawrence, Andrew Wilson..599 Bedford Ave.
Laws, Carl H...............61 Pierrepont St.
Lazarus, George F...........2105 Caton Ave.
Leahy, Sylvester R............151 Clinton St.
Le Fevre, Caroline Hurd..647 St. Marks Ave.
Leiter, Joseph G.........598 McDonough St.
Lewis, Maurice Thomas..........404 55th St.
Licht, Louis Frederick........65 Foster Ave.
Lincoln, Harry Warren......113 Hancock St.
Linder, William..........889 St. Marks Ave.
Lindridge, Edwin F.........260 DeKalb Ave.
Lintz, William...............1352 Carroll St.
Lippold, William Edward,
221 St. Nicholas Ave.
Little, George F.............469 Clinton Ave.
Lloyd, Ralph Irving........450 Ninth St.
Lloyd, Thomas Mortimer 125 Pierrepont St.
Lohman, William Henry 472 Washington Ave.
Long, John Hathaway..........50 Gates Ave.
Longmore, John A...........158 Clinton St.
Longo, Thomas Joseph........54 Union St.
Louria, Leona...............249 Hewes St.
Love, Cornelius R...........167 Clinton, St.
Love, William Lathrop.......857 Lincoln Pl.
Ludlum, Walter D....362 Marlborough Road
Lundbeck, Charles J...........107 Bergen St.

Lynch, Leo A...........212 Brooklyn, N. Y.

Lancer, Thomas F.......Belle Harbor, N. Y.
Leale, Medwin.............Glen Cove, N. Y.
Lehman, Max,
161 Hallack Ave., Glendale, N. Y.
Lewis, David R............Whitestone, N. Y.
Lindsay, Walter..........Huntington, N. Y.
Linnehan, George A.,
171 Shelton Ave., Jamaica, N. Y.
Linson, Kenneth Kenyon,
688 97th St., Woodhaven, N. Y.
Loper, Arthur C..... ..Greenport, N. Y.
Louis, William I.,
545 N. Oxford Ave., Richmond Hill, N. Y.
Luce, Charles A.............Amityville, N. Y.
Ludlum, Charles H.........Hempstead, N. Y.

McAveney, William Joseph....134 Second Pl.
McCammon, Frederick J.....167 Hancock St.
McChesney, Herman Franklin..1188 Dean St.
McClelland, Lefferts A.......196 Hancock St.
McEntee, Edward James....196 Hancock St.
McGoldrick, Edward Vincent..115 Russell St.
McKenna, Donald Esterbrook,
1020 East Twelfth St.
McKenna, William Francis 187 Lafayette Ave.
McLeod, John A...............160 Noble St.
McNamara, Sylvester James....369 Union St.
McQuillin, John Parker..........414 58th St.
MacCoy, Cecil.............184 Joralemon St.
MacEvitt, James M.............514 Ninth St.
MacEvitt, John Cowell.........1144 Dean St.
MacNaughton, Donald Stuart 50 Gates Ave.
Macumber, John L...........291 DeKalb Ave.
Maggio, Benjamin Fassulo
691 Bushwick Ave.
Mahr, George J.................98 Wilson St.
Malament, Menassah John....1297 Carroll St.
Malone, Joseph W.........8732 Bay Parkway
Menecke, Philip.......1058 Bushwick Ave.
Mangan, Daniel Clarence.......95 Park Ave.
Manley, Mark................261 Monroe St.
Manning, Charles Edward...480 Putnam Ave.
Matheson, A. Ross, St. John's Pl. and 7th Ave.
Matthews, Harvey Burleson,
643 St. Marks Ave.
Mausert, Gustav Adolf......67 Hanson Pl.
Mayes, Harry Welday..........438 Third St.
Mayne, Earl H...............139 Bay 17th St.
Meagher, John F. W.......220 Brooklyn Ave.
Meara, James A........101 South Oxford St.
Meeks, Frederick R.........100 Hancock St.
Menasse, Joseph Phineas......592 Henry St.
Merrill, George Adams........816 Ocean Ave.
Meury, John Bertrand....785 Bushwick Ave.
Meyer Johannes..........2038 Fulton St.
Mills, Henry M..............192a Sixth Ave.
Minton, Henry B...........165 Jorelemon St.
Mock, Johann Wilhelm......328 Central Ave.
Moitrier, William...........454 Putnam Ave.
Moitrier, William Jr.........454 Putnam Ave.
Monaghan, Frank J......1069 Bushwick Ave.
Mooney, Patrick J...............132 Kent St.
Moore, Joseph Leslie......36 Pierrepont St.
Moore, Samual Edward.....1332 Myrtle Ave.
Moorhead, Robert L.........185 Hancock St.
Morgenthaler, Herbert Jacob William,
911 Bedford Ave.

Morris, Harold Arthur......350 Ocean Ave.
Morrison, Robert J.............1175 Dean St.
Morton, Henry H........32 Schermerhorn St.
Morton, Lawrence, J.
Fort Hamilton Parkway and 88th St.
Moses, Henry Monroe..108 Prospect Park, W.
Mosher, Burr Boston......184 Joralemon St.
Moskowitz, Samuel N............131 Java St.
Mueller, Carl.............743 Bushwick Ave.
Murray, Archibald,
Hoagland Labratory, Brooklyn, N. Y.
Murray, Foster..........951 President St.
Murray Patrick J...........478 Classon Ave.
Myerle, David..............1135 Ditmas Ave.

McCarthy, Timothy F.,
5 Ray St. Jamaica, N. Y.
McCrea, Frederick L.
Rockville Centre, N. Y.
McMahon, Dennis Edward,
61 Whitney Ave., Elmhurst, N. Y.
MacClymont, Dewitt Clinton
Northport, N. Y.
MacFarland, Ralph L.,
53 Clinton Ave., Jamaica, N. Y.
MacIvor, James H.......Port Jefferson, N. Y.
MacLean, Burge P.........Huntington, N. Y.
Malcom, William J...........Jericho, N. Y.
Mann, John.............Old Westbury, N. Y.
Markham, Convas L........Amityville, N. Y.
Marshall, Joseph H...........Southold, N. Y.
Marshall, Samuel A.,
387 First Ave., Long Island City, N. Y.
Martin, Arthur Chalmers,
131 Hempstead Ave., Lynbrook, N. Y.
Mencken, H. P.,
91 Newton Ave., Astoria, N. Y.
Meynen, George Kissam,
43 Clinton Ave., Jamaica, N. Y.
Miles, Clarence C...........Greenport, N. Y.
Moore, Edwin Syme........Bay Shore, N. Y.
Morrissey, Joseph L.,
63 Lamont Ave., Elmhurst, N. Y.
Moss, L. Howard,
114th St. and 8th Ave., Richmond Hill, N. Y.
Mulcahy, William L.,
3 Carnaga ave., Far Rockaway, N. Y.
Murphy, Charles C..........Amityville, N. Y.

Napier, Charles Dwight....100 Lafayette Ave.
Nash, Philip Ingram,
Neptune Ave. and Cortland St.
Nichols, Carroll Leja........230 Hancock St.
Nichols, Louis Lee.......386 Stuyvesant Ave.
North, Nelson L.............150 Hancock St.
Northridge, Augustus Pearce 87 Halsey St.
Northridge, William Albert,
402 Washington Ave.

Newman, Leander A.,
190 Main St. Port Washington, N. Y.
Niesley, Charles M..........Manhasset, N. Y.
Nugent, John............Southampton, N. Y.
Nugent, John Henry.....Southampton, N. Y.
Nutt, Samuel D.,
1144 Woodhaven Ave., Woodhaven, N. Y.

O'Brien, William Henry J........99 Berry St.

O'Connor, Charles George.233 Brooklyn Ave.
Ogden, George Stewart......1024 Ocean Ave.
Oginz, Philip................490 Stone Ave.
Ohly, John Henry.......22 Schermerhorn St.
O'Reilly, James Aloysius....217 St. James Pl.
Otis, F. Burton.............369 Hancock St.
Owens, George C.........275 Kingston Ave.

O'Hanlon, George,
Bellevue Hospital, New York, N. Y.
Onuf, Brinslow,
208 Montross Ave., Rutherford, N. J.
Overton, Frank...........Patchogue, N. Y.

Pacini, August J. P...........145 Gates Ave.
Paffard, Frederick C..........238 Clinton St.
Pallister, Stanley Wilson..222 Jefferson Ave.
Palmer, George Hollis.......498 Greene Ave.
Parrish, John W...........111 Montague St.
Parish, Paul L.,.......52 South Portland Ave.
Pasqual, William Vincent, 690 St. Marks Ave.
Peake, Chester A..........1854 Bedford Ave.
Pearlstein, Maurice Barrett....309 Hewes St.
Pendleton, Judson Philbrook....91 Sixth Ave.
Peterman, Charles P........809a Greene Ave.
Peterson, Winfield A.........451 Fifitieth St.
Pettit, Henry S...............106 Gates Ave.
Pettit, William Randolph.....1918 Avenue K.
Pfeiffer, William........368 McDonough St.
Pierson, Ferrand Baker......837 Park Pl.
Pierson, William H.......101McDonough St.
Pilcher, James Taft..........145 Gates Ave.
Pilcher, Lewis Stephen........145 Gates Ave.
Place, E. Clifford............59 Livinston St.
Platt, Foster H...............851 Lincoln Pl.
Polak, John Osborn.........287 Clinton Ave.
Pomeroy, Ralph H........511 Nostrand Ave.
Pond, Eramus Arlington......1087 Dean St.
Pool, William Pohlman........166 Clinton St.
Poole, John W.,
Voorhees Ave. near East 18th St.
Porter, E. Pender ....1 Glenada Pl.
Potter, Alfred...............374 Sterling Pl.
Potter, Mary Emma....305 Washington Ave.
Price, William H............801 Prospect Pl.
Pullman, James................155 Reid Ave.

Parsons, Alfred H.........Great Neck, N. Y.
Payne, Albert E............Riverhead, N. Y.
Pendill, Willoughby C.....Huntington, N. Y.
Pershing, Edward H.......Woodmere, N. Y.
Peterson, Frederick C......Smithtown, N. Y.
Pflug, Henry Edward,
Van Cortland Ave., Evergreen, N. Y.
Phipps, Howard Morton....Hempstead, N. Y.

Quinn, William James.......2436 Cornelia St.

Rabinowitz, Harris Milton 149 Watkins St.
Rae, Alexander...............117 Henry St.
Randall, Edwin Thompson...139 Hancock St.
Ranken, John Francis..........852 Park Pl.
Rankin, William H.........151 Hancock St.
Rappold, Julius C..........750 Flushing Ave.
Rathbun, Nathaniel Philip.....67 Hanson Pl.
Rauth, Emil..............695 Lafayette Ave.,
Raynor, Frank C...........184 Joralemon St.
Read, John Sturdivant........174 Clinton St.
Reb, John H....................328 Jay St.

Reed, George E............737 Putnam Ave.
Reichers, George H.......1411 Bushwick Ave.
Reque, Peter A...............440 Clinton St.
Reynolds, Willard J.........1165 Dean St.
Rickard, Wilbur L.....390 Stuyvesant Ave.
Rink, Walter S..........160 McDonough St.
Risch, Otto E. F...............495 Third St.
Ritch, Amos Mead..........711 Putnam Ave.
Ritch, Orando S. ....78 Halsey St.
Roberts, Dudley D............84 Remsen St.
Robertson, Victor A..........51 Eighth Ave.
Robinson, Nathaniel............89 Halsey St.
Rogers, Hugh Edward........102 Hewes St.
Rohde, Otto Henry,
1037 Curson Ave., Los Angeles, Cal.
Angeles, Cal.
Rome, Russell Murray....246 Clermont Ave.
Rose, Julius T.............Headesburg, Cal.
Ross, Walter H...........215 Jefferson Ave.
Royce, Rubert S.............200 Greene Ave.
Rushmore, Jacques Cortelyou
477 Washinton Ave.
Russell, Julien W.................6 Plaza St.
Rutz, Anthony A...........81 Eighth Ave.
Ryan, Lorme McDonnell....38 Livingston St.

Rau, Leonard S.............Lawrence, N. Y.
Rave, Adolph George........Hicksville, N. Y.
Rhame, William..............Freeport, N. Y.
Riley, Francis Gerard,
44 Hardenbrook Ave., Jamaica, N. Y.
Rodger, David R.,
8714 102nd St., Richmond Hill, N. Y.
Ross, C. A.........Creed Ave., Queens, N. Y.
Ross, William H...........Brentwood, N. Y.
Ross, William Holmes........Sayville, N. Y.
Runcie, William H...........Freeport, N. Y.
Runge, Otto Ernest,
87 Foxall St., Ridgewood, N. Y.
Russell, Irving I....................Setauket

Salmon, Armand..............166 Sands St.
Sammis, George Frank........64 Decatur St.
Sarason, Peter Benjamin....284 Eleventh St.
Sauer, C. Thoedore...........284 Sixth Ave.
Schaefer, Ernest L.....801a Willoughby Ave.
Schaffner, Philip M.......121 Joralemon St.
Schauf, Adam................1244 Union St.
Schelling, Henry L.......264 Stuyvesant Ave.
Schenck, Herbert Dana........75 Halsey St.
Schirmer, William C.....596 St. Marks Ave.
Schlitz, Francis Augustus....28 Jefferson St.
Schroeder, Frederick......26 St. Marks Ave.
Schroeder, William........339 President St.
Schroeder, William, Jr.....184 Joralemon St.
Scofield, Charles Edward........880 Park Pl.
Scott, Peter..............126 New York Ave.
Scrimgeour, Robert............752 Carroll St.
Search, Charles J...........453 Franklin Ave.
Searle, Marcus Fowler...........34 Plaza St.
Seidensticher, Richard Frank..1147 Dean St.
Shann, Herman................207 Hart St.
Shaw, Richard E.,
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Medical Book News

BOOK REVIEW SUPPLEMENT TO THE *LONG ISLAND MEDICAL JOURNAL*

Edited by JAMES M. WINFIELD, M.D.

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ARTERIOSCLEROSIS.

ARTERIOSCLEROSIS AND HYPERTENSION WITH CHAPTERS ON BLOOD PRESSURE. By Louis M. Warfield, A. B., M. D., F. A. C. P. Third Edition. St. Louis, C. V. Mosby Company, 1920. 265 pages. Illustrated. 8vo. Cloth, $4.00.

The third edition of Warfield's interesting and instructive monograph on Arteriosclerosis has now appeared. The book takes up in some detail the underlying physiological and pathological processes which are involved in the evolution of the hypertensive diseases. The main theme of the book, however, is arteriosclerosis and it supplies a very satisfactory clinical description of the disease, noting its variations, its complications, and its management. The occurrence of more or less localized arteriosclerosis, and of arteriosclerosis without hypertension, are points well emphasized because they are so commonly overlooked. The author's views are conservative, although his review covers numerous unproven theories. Some of his generalities are so conservative that he is forced into some slight inconsistences in fuller discussion of them, but that is decidedly preferable to the credulity of many medical authors.

In classifying the hypertensive diseases Warfield describes three groups: A. Chronic Nephritis, B. Essential hypertension, C. Arteriosclerotic hypertension. All hypertension tends to the development of arteriosclerosis, although arteriosclerosis may develop without hypertension. These statements we believe are true and important and believe with the author that cases falling in Group A usually can and should be sharply differentiated. If he can succeed in more clearly separating the latter two groups much will have been gained. The main clinical distinction that Warfield proposes is in the tendency of patients of the arteriosclerotic group to present a higher pulse pressure than do those in the essential hypertension group. Much remains to be learned regarding these conditions, as the author takes pains to state. He is perhaps a little overcautious in his reluctance to suspect the ductless glands of complicity in some of the hypertensive conditions, although quite justified in his treatment of the fanciful theories of some of our endocrinologists.

In regard to treatment the statements are clear cut and sensible. The plea for periodical examination of healthy adults lends weight to a movement which should do much to lessen the ravages of the hypertensive diseases.

T. H.

SEXUAL IMPOTENCE.

SEXUAL IMPOTENCE. By Victor G. Vecki M. D. Sixth Edition, revised. Phila & London, W. B. Saunders Company, 1920. 424 pages. 12mo. Cloth, $3.00.

This comprehensive little work of some four hundred pages marks the sixth edition of Vecki's book. Prefaces to former editions are given even to the first which was published in German in 1888.

One must admire the author's frankness in treating upon the delicate subject of sex. The need for works of this type cannot be overestimated. The frequency of impotence, together with the general lack of knowledge of the condition, call for much work to be done in this field. Unfortunately in past years, as stated by the author, the subject has been much scouted and shunned. The sexually weak have too frequently been the subject of ridicule or the victims of disinterested and useless treatment.

It is to be regretted, however, that a man of such broad knowledge and experience as the author, expresses himself flatly in favor of sexual satisfaction for the unmarried adult male. He maintains that onanism pollutions and even impotence have resulted from prolonged continence. There are many who differ with the author on this point. Proper sex education should take care of this matter. It is largely a moral issue.

The chapter on prophylaxis is excellent. Doctor Vecki happily belongs to the conservative group when it comes to frequent and too vigorous instrumental manipulations.

His experience with Freud's Psychoanalysis and similar methods has been very encouraging.

Under the consideration of internal gland therapy the author claims some striking results with pluriglandular preparations. He does not state whether they were used with or without local treatment.

AUGUSTUS HARRIS.

FOOT CARE AND SHOE FITTING.

A MANUAL OF FOOT CARE AND SHOE FITTING FOR OFFICERS OF THE U. S. NAVY AND U. S. MARINE CORPS. By W. L. Mann, Ph.B., A. M., M. D. and S. A. Folsom, M. D. Phila., P. Blakiston's Son & Co., 1920. 124 pages. 58 Illustrations. 12mo. Cloth, $1.75.

This little volume has been written for the non-medical military mind and particularly for the officers of the U. S. Marine Corp.

It is a complete treatise on the minor ailments of the foot with a detailed description of the proper fitting of shoes.

The reviewer read the book with great interest and the detail impressed him again with the completeness of that organization, without a peer, the U. S. Marine Corps. This work is a credit to the organization.

J. C. RUSHMORE.

DISEASES OF THE RECTUM.

HANDBOOK OF DISEASES OF THE RECTUM. By Louis J. Hirschman, M. D., F. A. C. S. Third Edition, revised and rewritten. St. Louis, C. V. Mosby Company, 1920. 378 pages. Illustrated. Plates. 8vo. Cloth, $5.00.

This work is in its third edition. The scope has been kept within its original limitations and only those conditions which are amenable to surgical treatment in the office are discussed. Valuable non-surgical methods are described as well as a more refined technic of operative methods under local anesthesia.

The author presents the subject in 17 chapters, dealing with anatomy, symptoms which call attention to the rectum, examination of the patient constipation, fecal impaction, and pruritus ani. Other diseases discussed in detail are fissure, ulcer, abcess, fistula, hemorrhoids, polypi, proctitis and sigmoiditis, dysentery, and prolapse of the rectum in children. The chapter on dysentery is written by Dr. J. L. Jelks of Memphis, Tenn.

The author deals with local anesthesia and its limitations. The work is concluded with a chapter on feces and their clinical examination.

His diagnostic methods are thorough and modern. His treatment is accepted by the majority of workers in this field. It is in the treatment of fistulae that the greater advance in ano-rectal diseases has taken place. Since the application of the X-ray in determining their extent and ramifications, treatment has been placed on a rational basis, namely excision of the tract.

The recent graduate in medicine may often leave his college with but a hazy idea of those diseases unless the faculty is sufficiently broad visioned to include a course in Proctology.

This book is written primarily for the general practitioner, and if he follows the teaching herein described he may expect successful results.

R. H. FOWLER.

PERSONAL BEAUTY AND RACIAL BETTERMENT.

PERSONAL BEAUTY AND RACIAL BETTERMENT. By Knight Dunlap, Professor of Experimental Psychology in the Johns Hopkins University. St. Louis, C. V. Mosby Company, 1920. 95 pages. 12mo. Cloth, $1.00.

By contrariety many will read this book. Not even "handsome is that handsome does" finds favor with the author. It is a bold attempt to exclude most of us from its table of contents, for he is dealing with only simon pure fleshly beauty. That he makes his topic a theme of eugenics does not help us any for we naturally think of beauty as belonging to the realm of esthetics not drab economics. But beauty is a central problem of eugenics as we all recognize the minute we think about it. And even if we have to distinguish between beautiful, pretty, handsome, comely and the like, we know that attractiveness plays an important part in eugenics either for weal or woe. The author's dissection of beauty reminds one of the Anatomy of Melancholy—a skeleton per se is not beautiful; but our involuntary synthesis gives beauty a new value since each character receives a new meaning because now recognized as an integral part of a whole without which the whole could not be an entity: stature, bodily proportions, features, hair, fat, complexion, muscular tonicity, poise. So in part 2 dealing with the conservation of beauty the enumeration of malignant and beneficent effects of beauty in eugenics, improper sexual and social values, the duty of society to the misformed and the misfit, incest and inbreeding, the beautiful chorus girl the non-parental trend of economic conditions, each give their share of value to the author's plea for the proper consideration of an engaging subject.

TEXT-BOOK ON PHYSIOLOGY.

A TEXT-BOOK OF PHYSIOLOGY FOR STUDENTS AND PRACTITIONERS OF MEDI-

CINE. By Russell Burton-Opitz, S. M., M. D., Ph. D. Phila. & London, W. B. Saunders Company, 1920. 1185 pages with 538 Illustrations. 8vo. Cloth, $7.50.

Here is a book that will surely rank among the best of medical-school text-books on the subject, there being, at present, but two or three worthy competitors for the place of honor. As such it has been well planned; having been written in a clear, simple and attractive style and its subdivisions nicely apportioned. Naturally the author has focussed on human physiology; and though applying much data obtained from other animals, he has prefaced each of the main sections by a general discussion of the comparative physiology of the involved organ or morphologic system. Similarly, he has not only applied appropriate principles of physics and chemistry, but has also taken pains to clearly explain them before their application. It is excellently printed, paged and bound, is of convenient size, and its illustrations are not only sufficiently numerous, (there being 538 in all, including two colored plates), but quite satisfactorily reproduced. So that author and publishers, alike, deserve hearty congratulations. There are a few typographic errors; most, if not all of which may, however, be readily corrected in the classroom.

A glance through its tabulated contents shows that the book embodies all those portions of the subject usually dealt with in our medical-school courses, beginning with general physiology and ending with reproduction and development. Though in the case of this, as in that of most other prominent textbooks of physiology the absence of a separate chapter dealing with the mechanics of human joints and locomotion is conspicuous. Considering the value to clinicians in general, and to orthopedists in particular of an acquaintance with these matters, one may well question the wisdom of their omission by our teachers of physiology. For, although some of the clinical teachers may supply, in a measure, the required general conceptions, no one of them may be expected or depended upon to sufficiently discuss the physiologic problems, or explain the mechanical principles involved in every limb movement, in the maintenance of given, normal, postures and in the several forms of normal locomotion.

J. C. C.

VITAL STATISTICS.

VITAL STATISTICS: AN INTRODUCTION TO THE SCIENCE OF DEMOGRAPHY. By George Chandler Whipple, Professor of Sanitary Engineering in Harvard University. New York, John Wiley & Sons, Inc., 1919. 517 pages. Illustrated. 12mo. Cloth, $4.00.

Vital statistics is the science of public health bookkeeping. Every Public Health Officer and all who are interested in public health matters should have some knowledge of this vital branch of hygiene. Statistics are said to be dry, uninteresting and, to quote Shakespeare, "flat, stale and unprofitable." Professor Whipple denies this and thinks that the reason why statistics are dry is because people do not try to visualize them and the way to prevent statistics from being dry is to keep in mind that statistics are not merely figures that stand for facts.

Professor Whipple's intention in writing the book was "to outline the simple principles of the statistical method as applied to studies in demography and to urge students and health officers to seek the answers to their problems by methods of statistical analysis.

Whether the subject of vital statistics is dry or not its treatment by Professor Whipple is far from dry but is exceedingly interesting although in some parts quite technical. The chapters of the book are headed "Demography," "Statistical Arithmetic," "Statistical Graphics," "Enumeration and Registration," "Population," "General Rates," "Specific Rates"' "Causes of Death," etc., etc.

Some valuable references as well as model laws are given in the appendix. In the Chapter on "Occupations as Causes of Death," the U. S. Census Index of 1915 is used, although this index is already out of date and has been considerably improved by the Committee of the American Public Health Association. In the analysis of infant mortality, emphasis is laid upon the very interesting studies by the Children's Bureau of the U. S. Department of Labor as the relation of infant mortality to housing, occupation and earning capacity.

Altogether the book is a valuable manual for those who are interested in the subject.

G. M. P.

NURSE'S HANDBOOK OF OBSTERICS.

A NURSE'S HANDBOOK OF OBSTETRICS. By Joseph Brown Cooke, M. D. Ninth Edition, revised and enlarged, by Carolyn E. Gray, R. N., and Philip F. William, M. D. Phila. & Lond., J. B. Lippincott Co., (1920). 468 pages. Illustrated. 12mo. Cloth, $3.00.

This book has been very extensively revised and brought up to date and in its ninth edition well answers the double purpose of text-book and reference work for nurses. It is arranged in a logical order for the first and academic presentation of the subject, and also for easy survey of a special subject. The illustrations are excellent, the most important ones being actual photographs on a large scale.

The explanation of the mechanism of labor is as simple as possible, and pathology of obstetrics is discussed in a general but fairly practical way.

Coming, at least in part, and we suspect a good part at that, from the hand of one of the best known superintendents of nurses, gives us additional assurance that we have a practical text-book.

E. B.

PHYSICAL DIAGNOSIS.

A MANUAL OF PHYSICAL DIAGNOSIS. By Austin Flint, M. D., LL. D. Eighth Edition, Revised by Henry C. Thatcher, M. S., M. D. Phila. & London, Lea and Febiger, 1920. 362 pages. Illustrated. 12mo. Cloth, $3.00.

It is really refreshing to read a work such as this manual which lays stress on actual physical examination, and physical findings, in contrast to the modern tendency to rely on mechanical and laboratory aids for diagnosis. As the preface states it is particularly advisable to impress upon the student of medicine that in private practice the X-Ray, the polygraph, the electrocardiograph and such apparatus will not always be available, and that, therefore, he must learn carefully the art of diagnosis by the direct use of the unaided senses.

While all laboratory appliances and methods are to be used as supplemental or confirmatory measures in diagnosis it is devoutly to be hoped that the pendulum is about to swing the other way and the old time methods of physical diagnosis come into their own once more.

The book is well written, concise, with an admirable system of paragraphing which tends to bring out the important points and make easy the reading of the text.

W. H. DONNELLY.

INFANT FEEDING.

SIMPLIFIED INFANT FEEDING. By Roger H. Dennett, B. S., M. D. Second Edition, revised and enlarged. Phila. & London, J. B. Lippincott Company, 1920. 385 pages. Illustrated. 8vo. Cloth, $5.00.

Dr. Dennett has done perhaps more than any other pediatrician in this country to put the feeding of infants on a rational and simple basis.

Two things which he dwelt upon in the face of opposition and criticism at first, namely, whole milk mixtures and boiling the milk have been gradually more and more accepted until they are now almost universally used.

As outlined in the text the feeding of an infant, especially a normal infant is no longer a matter of guess work and the methods set forth are so simple that any physician may set about feeding cases without confusion of mind. The case method of arrangement of material is followed in this edition as in the last, and there is new matter on Dry Milk (of which Dr. Dennett was perhaps the first advocate in New York) on Acidosis, on Milk Salts and on the Hypertonic Infant.

The general practitioner must continue to outline the diet or formula for the average baby, and this work enables him to do so in a rational way.

The abnormal cases may be extremely difficult for even the most skilled pediatrician to feed, but it is quite essential that the normal child should have his feeding put upon a simple and common sense basis.

This Dennett's work unquestionably does.

W. H. DONNELLY.

SAFETY FUNDAMENTALS.

SAFETY FUNDAMENTALS. Lectures given by Safety Institute of America (Maintaining the American Museum of Safety). New York, Safety Institute of America, 1920. 228 pages. Illustrated. 8vo.

This is a compilation of lectures given under the direction of the Safety Institute of America in New York City during 1919.

A chapter is devoted to each of 10 lectures on subjects related to the safety campaign. The volume is intended primarily for state, municipal and insurance inspectors, but the subject matter is arranged and discussed in a manner which should be of general interest to those officials and employees in industrial establishments whose duties require them to be informed on safety matters.

The first two chapters discuss the normal and the injured body describing the anatomy and physiology followed by first aid hints.

The chapter on protective clothing is admirable and by means of text and illustrations show the best types for use in industries. The importance of good eyesight is next taken up, and also care urged as to proper protection against accident.

The matter of guarding machinery and also its proper arrangement are next taken up, followed by chapters on heating, ventilation, and illumination.

In a chapter entitled "Nature's forces for and against Workmen" the proper and improper use of fire are shown and the hazards from smoke, chemicals, electricity, wind, fog, compressed air, dust, water, etc. are described.

The last chapter is given up to a discussion of safety education and shop organization, in which it is shown clearly how a factory should develop such an institution.

The book concludes with a bibliography embracing the various topics discussed in the volume. This is very complete and really is one of the most valuable parts of the book.

A. E. SHIPLEY.

CHORIOEPITHELIOMA MALIGNUM.

CHORIOEPITHELIOMA MALIGNUM. Kliniske og Pathologisk Anatomiske Studier. Av Anton Sunde. Kristiania, Emil Moestue, 1920. 286 pages. Illustrated. 8vo.

In this remarkably full and carefully worked up presentation of the subject the author has collected two hundred and forty cases of hydatid mole, with thirty-eight cases of chorioepithelioma malignum. Of eighteen operable cases of the malignant condition there were twelve cured or sixty-six per cent.

As to etiology the following figures are given: 43.6 per cent of chorioepithelioma malignum proceed from hydatid mole, 29.3 per cent from abortions, 22.1 per cent from normal pregnancies and five per cent from extra-uterine pregnancy.

The sole treatment is maintained to be vaginal hysterectomy. It would seem that Sunde's work cannot but help greatly to clarify and put upon a scientific basis our knowledge of such an important and dangerous condition.

W. H. DONNELLY.

MODERN SPIRITISM.

MODERN SPIRITISM: ITS SCIENCE AND RELIGION. By A. T. Schofield, M. D. Philadelphia, P. Blakiston's Son & Co., 1920. 259 pages. 12mo. Paper, $1.25.

This is a severe, but well deserved arraignment of modern spiritism. The author states "that modern spiritism seeks to be both a science and religion, which is impossible." It is far from being a science, its failures are so numerous and successes very doubtful. As a religion it is a rival of Christianity. The true spiritist soon ceases to be, if indeed he ever was, in any ordinary sense of the word, a Christian. He rejects uncompromisingly the leading doctrines of the Christian faith. The author tells us that if one desires to see what is fraudulent, ignoble and debased the spiritist seance may be relied on to fulfill the desires.

The case for and against spiritism is presented fairly and squarely. The author first gives the history and phenomena of modern spiritism. He measures it by the scientific standard and finds that it fails to meet it. The only proof it produces is by fraud and association. Nothing has really been discovered and nothing proved of the unseen and unknown. He then measures it by the Christian standard and shows clearly that it is antichristian. It describes itself as a new revelation but we are not told the important point who in this last revelation represents either Moses or the Lord Christ. Lastly the moral standard is applied and again spiritism is found wanting. He warns those who indulge in these so-called modern spiritism investigations that eventually the whole current of life becomes changed and character alters for the worse and mental balance becomes unhinged in a remarkable way—the prelude to real insanity. He finds St. Paul's warning against the final dangers that will beset the Christian faith fulfilled in the cults Christian Science, Spiritism and Theosophy or Modernism. A well furnished student of science and medical psychology he explains many of the spiritist phenomena—the yielding up of self control to others with dire results—the mental and physical pathological effects that naturally follow—the degradation even to the level of the beast, pictures familiar to every experienced practitioner of medicine.

It may be added that when one studies man's nature, his innate springs of action, appetites, desires and sentiments, he arrives at the supreme law of nature as expressed in the five cardinal virtues: benevolence, justice, truth, purity, order. This is the same man that the Bible deals with revealing the only means by which he may approach perfection. When one studies the modern cults he finds not man "Made in the image of God" with which he has been familiar, but a new being self-conceited and abandoning the only means which have been revealed by God to bring him to Himself.

Many will agree with the author that it is high time to discard this man of fiction and unbelief, to acknowledge our limitations and seek that aid which vouchsafed us by the Bible.

H. A. F.

AFTER TREATMENT OF SURGICAL PATIENTS.

THE AFTER-TREATMENT OF SURGICAL PATIENTS. By Williard Bartlett, A. M., M. D., F. A. C. S., and Collaborators. St. Louis, C. V. Mosby Company, 1920. 2 vols. 1066 pages. 435 Illustrations. 8vo. Cloth, $10.00.

The author correctly states in the preface that in the majority of instances the need of surgical after treatment is in inverse proportion to the care with which surgical patients are studied previous to operation together with the judgment and technical skill employed in the operating room. There are, however, many patients who are made more comfortable by properly directed after care and in the interest of these and the few who are actually lost because of the lack or misuse of it, this work is intended for those who desire this subject more fully amplified than is possible in the average surgical text book.

The work of Dr. Bartlett and his collaborators has been compiled in two volumes the first of which deals with the general phases of surgical after care and the second with those special measures which are applicable to the several regions and organs of the body.

Volume one begins with a description of the ideal room for operated patients and includes seventy-two chapters in all. Of these none are more important than those which deal with the physical, nutritional and mental reconstruction of the surgical patient; factors in treatment which surgeons have been too prone to disregard but the importance and necessity of which have been demonstrated beyond doubt by the experiences of the military surgeons in the recent war.

In volume two some phases of operative technic are of necessity described and illustrated in order that the reader may have a better appreciation of the correct application of many of the more important measures of after treatment.

This volume includes sections on the head and neck, the thorax and abdomen and their contained viscera, urologic, rectal and vaginal conditions and chapters on the extremities including orthopedics.

In the first volume Dr. O. F. McKittrick has contributed thirty-four of the seventy-two chapters and his writings comprise a sound and authoritative review of the more important post operative sequelae and complications together with their proper management.

The work as a whole is complete and produced with great care in its attention to detail; it is well and profusely illustrated with original drawings and contains many suggestions which should prove helpful not only to house officers and junior surgeons but also to the surgeon of experience. W. A. S.

WOUNDS OF LUNG AND PLEURA.

TREATMENT OF WOUNDS OF LUNG AND PLEURA. Based on a study of the Mechanics and Physiology of the Thorax. Artificial Pneumothorax—Thoracentesis—Treatment of Empyema. By Professor Eugenic Morelli. Translated from the Italian by Lincoln Davis and Frederick C. Irving. Boston, W. M. Leonard, 1920. 214 pages. Illustrated. 8vo.

This small book is of great interest as some new principles in the treatment of thoracic lesions have been advocated and discussed in a clear and convincing manner. The author was fortunate in his choice of translators for they have shown sympathy with the original as well as skill in rendering it into English.

Professor Morelli was a pupil of Forlanini and before the war was conversant with the excellent results of artificial pneumothorax used by his "Maestro" in the treatment of pulmonary tuberculosis. He has adopted this method in the treatment of injuries of the lung and finds it most useful in controlling hemothorax, in fact rendering suture of wounds of the lung unnecessary. Morelli favors washing out any blood that may have collected in the pleural cavity and says his final results have been greatly improved by this procedure. When an external wound exists sufficiently large to permit the suction of air into the chest Morelli closes such a wound with a rubber balloon which he has devised, thus allowing treatment even in these cases by means of pneumothorax. His experience has proven that projectiles lodged in the lung are usually encysted without resultant infection and that it is usually wise not to attempt their removal.

The treatment of empyema thoracis by this method is warmly advocated but, it seems to the reviewer, not so convincingly as in the case of wounds.

The apparatus used by the author is well described and illustrated. There are also some reviews of cases accompanied by X-ray prints.

The reading of this volume is most refreshing because of the novelty of its contents and the modesty of its presentation. T. B. S.

PATHOGENIC MICROORGANISMS.

PATHOGENIC MICROORGANISMS. A Practical Manual for Students, Physicians and Health Officers. By William Hallocks Park, M. D., and Anna W. Williams, M. D., assisted by Charles Krumwiede, Jr., M. D. Seventh Edition, enlarged and thoroughly revised. Phila. & New York, Lea & Febiger, 1920. 786 pages. Illustrated. 8vo. Cloth, $6.00.

The present edition of this standard work is presented in most attractive form. The binding is pleasing, the paper of good quality, the illustrations are numerous and illuminating and the arrangement of subject matter is most satisfactory. Publisher and authors alike deserve credit for this volume and for achieving the difficult task of improving upon previous editions of an excellent text-book. The chapter upon media has been re-written and brought up to date with a clear discussion of hydrogen-ion concentration of media. The chapters upon immunity have also been re-written and the essential facts of this difficult subject are presented in such form as to be easily grasped. The facts learned during the war about streptococci, bacillus influenza and the bacteriology of war wounds have been incorporated into the chapters on those organisms. The latter half of the volume is occupied by chapters on pathogenic protozoa, the practical application of vaccines and sera, bacteriological examination of water, milk, shell fish, soil, sewage, bacteria in industry and finally practical disinfection.

E. B. SMITH.

DISEASES OF THE CHEST.

DISEASES OF THE CHEST AND THE PRINCIPLES OF PHYSICAL DIAGNOSIS. By George W. Norris, M. D., Assistant Professor of Medicine in the University of Pennsylvania, and Henry R. M. Landis, M. D., Assistant Professor of Medicine in the University of Pennsylvania, with a chapter on Electrocardiograph in Heart Disease, by Edward Krumbhaar, Ph. D. M. D., Assistant Professor of Research Medicine in the University of Pennsylvania. Second Edition, Thoroughly Revised. Octavo Volume of 844 pages with 433 illustrations. Philadelphia and London: W. B. Saunders Company, 1920. Cloth $8.00 net.

In order to do full justice in a review, the general outline and particular features of a book should be given in sufficient detail to insure to the reader and prospective purchaser an intelligent idea of the subject matter, as well as the manner in which it has been handled.

As this is the second edition of a book that has already established itself, it requires no particular eulogium—"good wine needs no bush." It is a far cry from the 100 page text book of Austin Flint to the present elaborate volume, and the increase in size is some measure of the increase in knowledge that marks the last forty years of medicine.

This is particularly true of the methods of examination of the heart and lungs by the X-ray, both plate and fluoroscope, and by the electrocardiograph, subjects that the present work treats in a most thorough manner. The reproductions of X-ray findings are particularly good, although it must always be remembered that no halftone reproduction, however excellent, especially where it is reduced to the size of a printed page can give an adequate idea of the fine detail of the original negative. For this reason the illustrations of early tubercular lesions, though good, are at best only suggestive, though they enhance the interest of the book.

It is beside the mark to single out any points of outstanding excellence in a work that is so uniformly good. It is a fair comment to call atention to the excellent reproduction of frozen sections that are much more impressive than the usual form of diagram. The entire subject is handled in the best type of craftsmanship.

H. G. W.

BOOKS RECEIVED.

ADVANCED LESSONS IN PRACTICAL PHYSIOLOGY FOR STUDENTS OF MEDICINE. By Russell Burton-Opitz, S. M., M. D., Ph. D. Phila. & London, W. B. Saunders Company, 1920. 238 pages. Illustrated. 8vo. Cloth, $4.00.

CARE AND FEEDING OF INFANTS AND CHILDREN. A text-book for trained nurses. By Walter Reeve Ramsey, M. D., including suggestions on Nursing by Margaret B. Lettice. Second Edition Revised. Phila. & London, J. B. Lippincott Co., 1920. 290 pages, Illustrated. 12mo. Cloth, $2.50. (Lippincott's Nursing Manuals).

DISEASES OF THE INTESTINES AND LOWER ALMENTARY TRACT. By Anthony Bassler, M. D. Philadelphia, F. A. Davis Company, 1920. 660 pages. Illustrated. Plates. 8vo. Cloth, $7.00.

A GENERAL INTRODUCTION TO PSYCHOANALYSIS. By Prof. Sigmund Freud, LL. D. Authorized translation with a Preface by G. Stanley Hall. New York, Boni & Liveright, 1920. 406 pages. 12mo. Cloth, $4.50.

MORTALITY STATISTCS, 1918. Nineteenth Annual Report. Department of Commerce—Bureau of the Census. Washington, Government Printing Office, 1920. 603 pages. 4to.

HUMAN PARASITOLOGY with Notes on Bacteriology, Mycology, Laboratory Diagnosis, Hematology and Serology. By Damaso Rivas, B. S., Biol., M. S., M. D., Ph. D. Phila. & London, W. B. Saunders Company, 1920. 715 pages. Illustrated. Plates. 8vo. Cloth, $8.00.

Notice of Fall Meeting

Associated Physicians of Long Island

Advertising Page xxii

LONG ISLAND
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ECHINOCOCCUS CYST OF THE LIVER.
CASE REPORT.*

Walter A. Sherwood, M. D., D. Sc.

MRS. H. P., twenty-six years of age and a native of Greece, entered the medical service of the Brooklyn Hospital on March 15, 1920. She had been observed and studied by Dr. Glentworth R. Butler who made a tentative diagnosis of hydatid cyst of the liver following which she was transferred to the service of the writer for surgical observation and treatment.

Her chief complaints were weakness, cough and enlargement of the abdomen. These symptoms had covered a period of sixteen months and had steadily progressed in severity. It was ascertained that the patient had lived in the sheep raising district of Greece, that her family kept numerous sheep herding dogs and that the patient was in more or less daily contact with these dogs.

Salient features of physical examination: An emaciated, sickly looking woman with pale, sallow skin and pinched features; there is slight jaundice and a constant, distressing cough.

Chest: Absolute flatness on the right side posteriorly from the angle of the scapula downwards.

Abdomen: Large, tense tumor protruding in the right hypochondrium and evidently associated with the liver; suggestively cystic but not fluctuaing. Hydatid fremitus absent.

Laboratory findings: Gastric analysis, Wassermann reaction, blood chemistry, urine, stool and sputum examinations were all negative. Hemoglobin 88%, red cells, 3,052,000; white cells 10,200; differential, not suggestive.

No elevation of temperature, pulse rate 90 to 100. Respirations 24.

X-ray findings: There is an enormous tumor occupying the right side of the abdomen the shadow of which cannot be differentiated from the liver; the right half of the diaphragm is crowded upwards by the tumor to the level of the scapular angle.

Diagnosis—Echinococcus Cyst of the Liver.

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*From the records of Service "B," Department of Surgery, Brooklyn Hospital.

First Operation, March 25, 1920.

Tumor exposed through right rectus incision and found to involve the entire right lobe of the liver; five quarts of pale yellow, limpid fluid removed with trocar and canula. Wall of cyst easily separated from the liver substance and removed in toto. Edges of opening in liver sutured to peritoneum; cavity drained with large rubber tube and lightly tamponed with gauze.

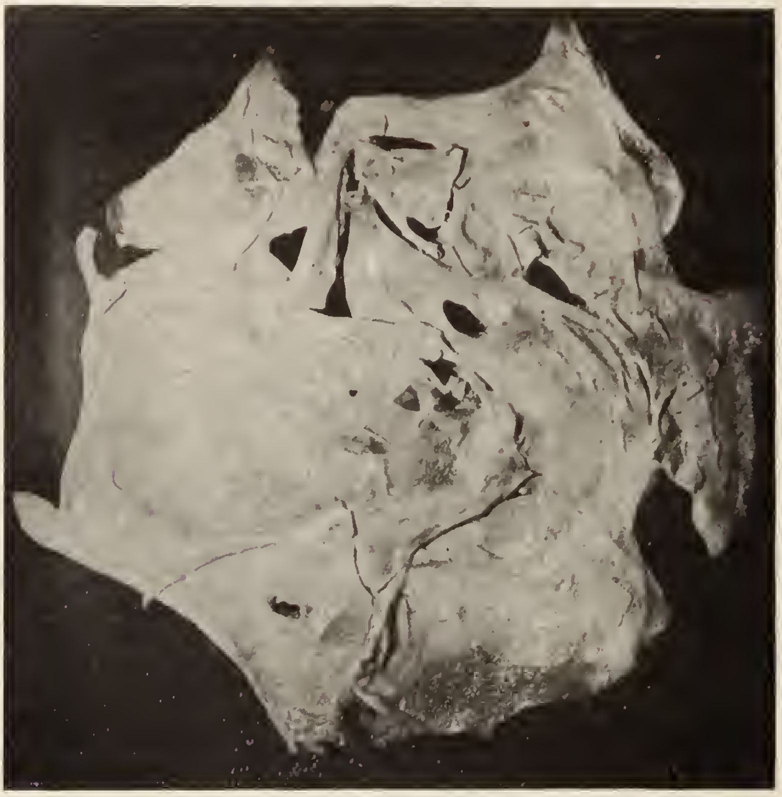

Fig. I. Sac Wall of Parent Cyst Removed from Right Lobe of Liver Through Right Rectus Incision. First operation.

Pathologist's report:

Examination of cyst wall shows typical laminated and hyaline structure of echinococcus cyst; there are a few daughter cysts adherent to the surface. The fluid removed has a specific gravity of 1010. Albumin, red blood cells, and lymphocytes present. Otherwise negative.

Note: On April third, during a dressing, there was found to be a communication with the pleural cavity through an opening in the diaphragm. A copious discharge of sero-purulent fluid continued and the patient did not improve. Further x-ray examinations revealed the persistence of a dense shadow both below and above the diaphragm.

Second Operation May 8, 1920.

Portions of the seventh and eighth ribs removed in the posterior axillary line and upper part of the right lobe of the liver exposed by the transpleural method of approach. Through this opening a secondary cyst about the size of an orange was removed together with a large number of daughter cysts of the general contour and appearance of white grapes. This wound was made to communicate with the site of the first operation and through and through drainage was established. Following this operation the patient's condition gradually improved. Physical signs, however, suggested an accumulation of fluid in the pleural cavity and on two occasions large quantities of foul smelling pus were removed by aspiration. The persistence of cough, fever, and the expectoration of foul smelling muco-purulent material suggested the development of pulmonary abscess. This was verified by x-ray and the abscess was drained through a high thoracotomy wound in the fifth interspace close to the costo-vertebral angle.

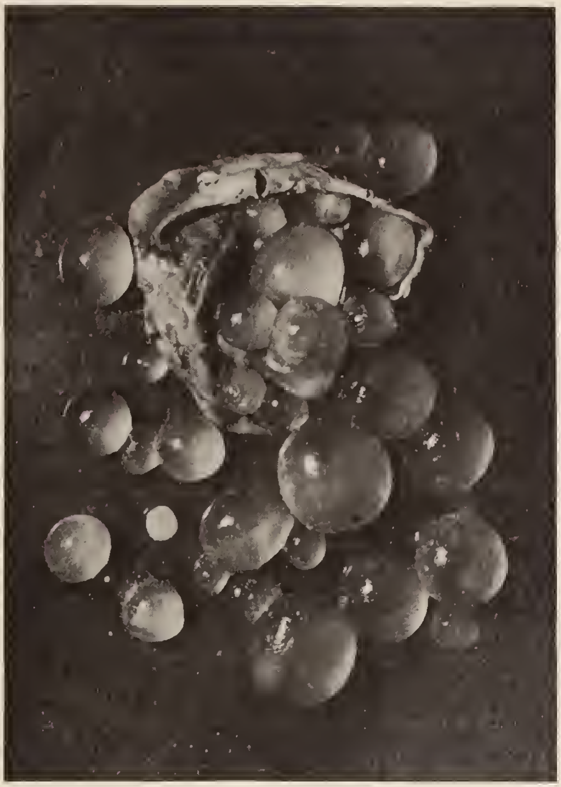

Fig. II. Daughter Cysts and Portion of Sac Wall of Secondary Cyst Removed by Transpleural Approach. Second operaion.

Note: During the entire post operative course the patient remained critically ill with high fever, thready pulse, distressing cough, and extreme prostration. Following each operation there was a gradual improvement and after drainage of the lung abscess recovery was progressive and uneventful. She has gained rapidly in flesh and strength and now, four months subsequent to the last operation, all wounds are healed and recovery seems complete.

Comment:

Hydatid or echinococcus cysts may develop in any of the abdominal or thoracic viscera but are most frequently seen in the liver. They are more common in France, Greece and Iceland than in this country and are due to the accidental ingestion of the ova of the taenia echinococcus, the natural habitat of which is the intestinal canal of the dog and particularly the sheep herding variety of dog. The migration of the embryonic hooklets and the development of the parent cyst, endocyst and daughter cysts are well understood and described in most standard works on surgical pathology. The cysts are slow in growth and the symptoms are those of pressure and disturbances of neighboring viscera. When the liver is involved the condition must be differentiated from gumma and cancer. The treatment is invariably surgical. The operation devised and described by Delbet of France offers the best means of permanent relief. In attempting the operative treatment of these cases it should be remembered that the wound surfaces may become contaminated and that any operation undertaken for the total eradication of the disease is distinctly a major surgical problem and attended with many dangers and the risk of a stormy and complicated convalesence.

ABNORMALITIES OF THE GASTROINTESTINAL TRACT IN PERSISTENT CONSTIPATION IN CHILDREN AND THE APPLICATION OF ROENTGENOGRAMS IN THEIR RECOGNITION.*

Murray B. Gordon, M. D., F. A. C. P.

Brooklyn, N. Y.

PERSISTENT constipation in children is one of the banes of a child's existence and the constant source of anxiety on the mother's part. Therefore anything that will be of any assistance is its management is welcome. The diagnosis of this condition is easily enough made but the discovery of the etiological factors underlying it is attended with more difficulty. The usual procedure of investigation in cases of this sort is to inquire into the past history of feeding and then attempt to cure it by a regulation of the diet. In the majority of instances this meets with success, but in others, the physician becomes baffled at the persistence of the sluggishness of the bowels. Instead of investigating further, the mother is told that "the child will grow out of it" and the case dismissed.

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*From the Department of Pediatrics, Long Island College Hospital, Brooklyn, N. Y.

The causes of persistent constipation in children are many, such as constitutional, mechanical, reflex, dietary, etc. In this paper we shall consider only the mechanical causes. One of the chief contributing etiological factors from the mechanical view point is the length of the large intestine. This is relatively longer than in adults with a correspondingly larger mesentery, thus being more prone to the occurrence of malformations, such as extreme length of the colon, redundancy, dilatation, hypertrophy or ptosis. The part played by this mechanical factor in the production of persistent constipation, especially in those cases dating from birth, has always been recognized but its importance has not been accentuated to the degree which it deserves until only recently.

We have in the x-ray a valuable aid in the discovery and diagnosis of any abnormality of the large intestine which may be responsible for the persistent constipation. It is surprising with what frequency the medical profession turns to the roentgenogram for assistance in the diagnosis of an obscure or puzzling case in the chest as compared with the relative infrequency with which it calls the x-ray as an aid in cases of obstinate constipation. That malformations of the gastro-intestinal tract are probably of more frequent occurrence than generally believed has been shown by Kerley in a recent study of the abnormalities of this tract by means of the roentgenogram. He describes 9 cases in detail, 6 of which presented persistent constipation as a cardinal symptom. Of these 6 cases, the roentgenogram demonstrated that 3 were due to elongation of the sigmoid, 1 to triple sigmoid, 1 to sharp angulation at the junction of the descending colon and the sigmoid and 1 to ptosis of the colon. Meyers in a similar study reports 6 cases of redundancy of the colon, with an accompanying dilatation of the rectum in two, in which the prominent symptoms were chronic constipation and abdominal distention.

The degree of dilation of the colon is variable, ranging from an involvement of only one section to that of the entire colon. This is sometimes designated as Hirschsprung's Disease but as our knowledge of the histo-pathology of the latter condition is not absolutely accurate, it would seem more feasible to classify dilatation and hypertrophy of the colon according to the amount of dilation present as mild, moderate or great.

The symptomatology of a dilated colon is more or less constant in all cases which have been reported. Constipation is the most prominent, and at times the only manifestation of the malformation, appearing in the majority of instances at birth but occasionally first noted in later years. It may persist for a day and even for a week or two unless relieved.

There may be an occasional attack of diarrhea, but this is always followed by a return to the constipation. Accompanying the sluggishness of the bowels, there is almost always present an abdominal distention which is probably produced by the accumulation of gas or fecal matter. Dullness over the sigmoid region can be elicited in the latter condition. Persistent vomiting is generally present. Kerley states that cases of recurrent vomiting have been repeatedly interpreted as being manifestations of acidosis, whereas an x-ray examination in many intsances would have demostrated that the vomiting was due to a dilated or ptosed stomach in which there were retention and residue long after the feeding period.

The appetite is poor, especially in those cases where there is a defective emptying capacity of the stomach, this giving rise to the same feeling of satiation as that produced by food. The general health is usually not affected except in the severe and more pronounced types in which the children become anemic and badly nourished. In addition, they may be listless, dull, apathetic and lack initiative as a result of the auto-intoxication following the accumulation of fecal matter.

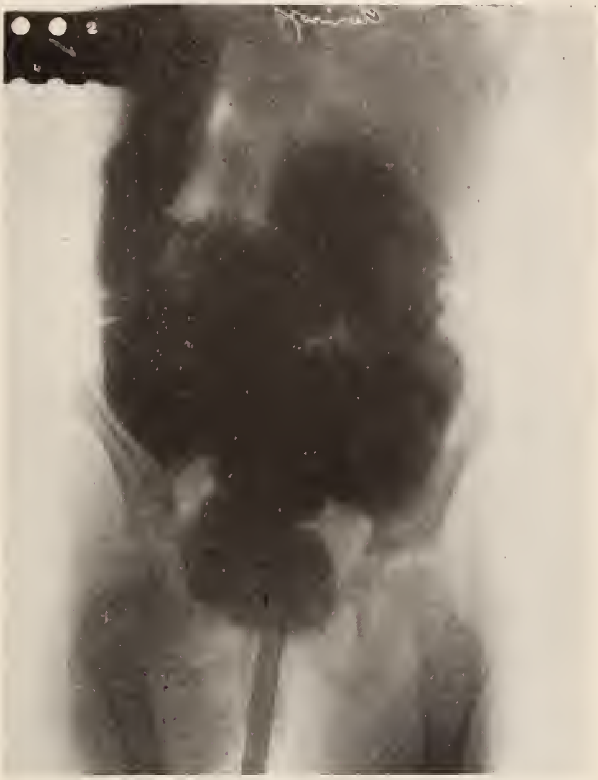
According to Holt, the hypertrophy and dilatation of the colon is due to an increase in the circular muscular fibres of the affected portion of the large intestine. This increase is a compensatory effort to overcome the obstruction.

The condition cannot be cured by medicinal means but it is possible to obtain some relief by regulation of the diet, massage, exercise, drugs and other palliative measures. In cases of ptosed stomach, Kerley advises the wearing of an abdominal belt with a projecting narrow pad placed in such a way so as to support the displaced stomach.

The diet should be regulated and well balanced. As it has been noted that a carbohydrate preponderance aggravates the condition, it may at times be necessary to eliminate this variety of food. Meals should be given three times a day at long intervals and with very little liquid at the time; this is important because of the delay in the emptying time of the stomach which is present in the majority of these cases.

Abdominal massage once a day is indicated. Enemas will be found to be essential. In the failure of all other measures, drugs should be administered as a last resort. Those which have proved beneficial are atropin in 1-1000 solution in five minim doses three times a day, increasing gradually until the physiological limit; nux vomica, belladonna, cascara and mineral oils.

Dr. A. L. L. Bell, Roentgenologist to the Long Island College Hospital, to whom the writer is indebted for the taking of the x-ray plates and their interpretation, kindly furnishes the following directions for the preparation of a patient: "In the preparation for an x-ray examination of a patient suffering from persistent constipation, a large enough dose of castor oil should be given on the evening previous to the examination so as to bring about a complete emptying of the colon. On the following morning, after the evacuation of as much fecal matter as can be expelled voluntarily, a soap sud enema should be given rapidly enough and in sufficient quantity to stimulate a rapid return. Immediately after this, the patent should be taken to the x-ray room and the bismuth or barium enema started. During the injection of the enema, its progress should be watched fluoroscopically, as it is only in this way that a large dilated colon can be satisfactorily studied. In some instances of dilated colon, it is found on the final examinaton that the sigmoid, descending, transverse and ascending portions of the colon are hopelessly overlapped, so that, while a diagnosis of dilatation of the colon is easily made, yet the relative enlargement of the various parts of the colon cannot definitely be differentiated. It is also important to study these cases fluorscopically when a congenital anomaly of the colon is suspected, in which case, when a final plate is taken without a fluoroscopic examination during the injection, we have no way of determining the completeness of the filling of the colon. After the completion of the injection and before the removal of the rectal tube, a plate is taken. The rectal tube should not be removed before the plate is taken in children, as there is a likelihood of an involuntary evacuation of the barium or bismuth."



Case II.

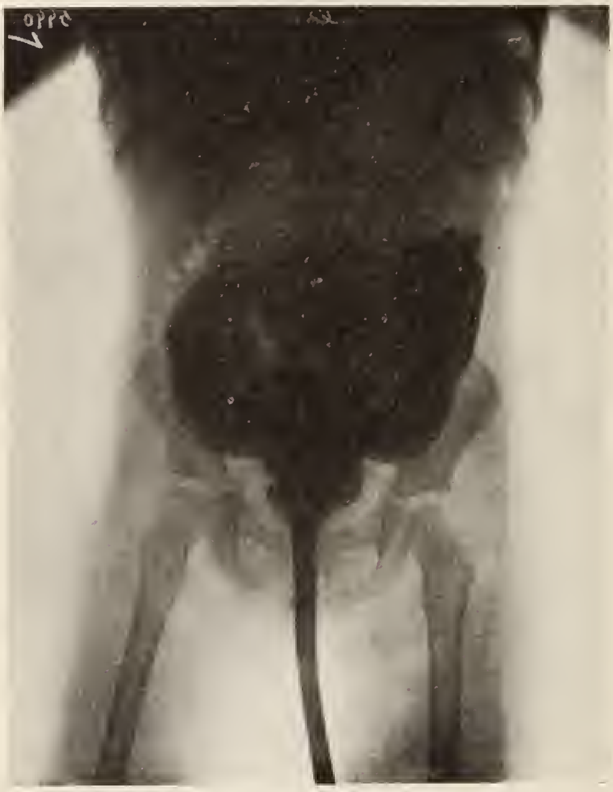
The following cases demonstrate some of the anomalies which may be found to be at the root of the trouble in persistent constipation. One occurred in the writer's service at the Polhemus Memorial Clinic and the other two in his private practice.

Case 1—Female, eight and one-half years of age, family history negative.

Past history—Born at full term, normal delivery, breast fed up to the age of one year, since then on general diet. Walked at 14 months, talked a 15 months, first teeth at 18 months. Pertussis at three, measles and acute otitis media at four years.

Subject to colds and sore throat until the removal of tonsils last year.

Present complaint—Bowels moved once a day since birth until four months ago, at which time they became constipated and since then functionate every three or four days and then only by aid of drugs or enema; they very rarely move naturally. There is a history of abdominal distention since the age of two months, this becoming aggravated and more pronounced in the past four months since the advent of the constipation. From then on, the child has lost all ambition and interest in her school work, her appetite has failed, she has become quieter in her habits and does not wish to associate with her playmates as much as she did formerly. She has gained in weight, has headaches and eneuresis.



Case III

Examination—A well developed girl, weighing 67 pounds. Throat, ears and nose negative, teeth in decayed condition, serrated edges and a separation of the incisors. Eyes prominent. Skin moist and elastic. Heart and lungs negative. Abdomen distended and tympanitic except over the left inguinal region where dulness was obtained, showing a filled sigmoid. Umbilicus slightly prominent. Measurements of the abdomen:

Prone position:

Circumference at umbilical level .... 25½ in.

Circumference at costal margin .... 24⅜ in.
Standing position:
Circumference at umbilical level .... 27 in.

X-ray examination of the abdomen showed a markedly dilated ascending and transverse colon. A second plate taken a month later showed a dilatation of the entire colon. These plates are not available for reproduction.

Progress and treatment. This girl was referred because of a suspected endocrine derangement, probably a hypothyroidism. This diagnosis was at first concurred in because of the delay in development (tardy walking, talking and teething), habitual constipation, eneuresis, cold extremities, loss of ambition, bad teeth, distended abdomen, accumulation of fat and backwardness in school. A modified Binet Simon test, however, showed her to be above the normal for her age. The diagnosis was changed partially because of the x-ray findings and a final diagnosis made of Dilatation of the Colon and a possible hypothyroidism. She was placed upon Thyroid Extract, gr. 1/10 three times a day, all meats and fish were discontinued from her diet as well a diminution in the amount of carbohydrates permitted. Bran, buttermilk and fruits were added to the diet. This was followed by an amelioration in the symptoms, the bowels moving naturally every day with a resulting diminution in the abdominal distention. The sluggishness of the bowels returned however in a few weeks.

Case 2—Female, 5 years old, a twin. Family history negative. Full term, normal delivery, breast fed up to six months of age. Her twin is not troubled with any constipation.

Past History—First teeth at six months, walked at 12 months, crawled at 9 months and talked at 12 months. History of measles, varicella and parotitis.

Present Complaint—has always been constipated from birth, can go for three or four days without a movement of the bowels unless relieved. Vomits occasionally, no appetite, odorous breath, pains in right side. Uses mineral oil and enemas with variable effect.

Examination—A poorly developed and malnourished girl with blond flaxen hair and blond hursites of a general distribution. Eyes, ears, nose and throat negative, some badly decayed teeth. Abdomen flaccid, almost scaphoid in shape. Chest negative.

X-ray Examination. Fluoroscopic examination during the administration of the colon enema showed a re-duplication of the sigmoid, there being a loop to the right and a second loop to the left before the descending colon was reached. The descending colon, transverse colon and cecum filled rather quickly. Throughout the fluoroscopic examination the haustral markings on the descending and transverse coli were present but not in the number usually seen. There were no spasms at any time during the examination. Toward the end of the injection the colon dilated markedly, particularly in the cecum and ascending colon and the haustral markings became less marked. The x-ray plate shows a markedly dilated rectum, sigmoid, ascending colon and cecum. The descending and transverse coli do not show as large a degree of dilation but evidence their atonic condition by the relatively small number and shallowness of the haustrations. The position of the colon throughout is normal.

Present diet (at time of examination): Farina, wheatena, bread and butter, coffee, milk, fruit, and sometimes smoked salmon for breakfast.

Luncheon—Cream, potatoes, bread, butter and fruit.

Dinner—Soup, milk, fried chicken.

Progress and Treatment. The diet was regulated by prohibiting the fried chicken, smoked salmon and coffee and adding bran bread, biscuits and buttermilk. Abdominal massage and exercise ordered. Placed on nux vomica, cascara, and rhubarb and soda mixture. The patient was under observation for four months, during which time the condition improved materially, but with occasional periods of retrogression.

Case 3. Female 20 months old. Family history negative. Only child.

Past History—Full term, normal delivery, breast fed for nine weeks, at which time modified whole milk was added. At 6 months, she was receiving 3 ounces each of whole milk and water with one teaspoonful of milk sugar three times a day; at nine months, six ounces of whole milk and two ounces of barley water with one-third teaspoon of milk sugar; at one year she was obtaining whole milk, cereals, orange juice, potatoes, soups.

Present Complaint. She has been constipated from birth. No history of vomiting or painful defecation; blood was never found in the stools which were always of a normal color but hard and constipated. Two or three days could intervene before the bowels moved, if permitted. The greater part of the time, however, the child was being given some laxative with variable success.

Examination. Very well nourished child, teeth normal, development normal, general examination negative except for the presence of hemorrhoids. Slight abdominal distention.

X-ray Examination. No fluoroscopic examinaton was made on this patient, the apparatus not being available. Only a relatively small amount of barium was tolerated by this patient and the plate taken after the completion of the injection shows a large dilated loop of sigmoid on the right side and then a smaller loop on the left side but one which runs up farther than on the right. This probably represents only a filling of the sigmoid and the second loop described is probably a re-duplication. However, there is a possible congenital anomaly of the colon present, that is, a non rotation with absence of the transverse colon. This, however, seems unlikely since there are large amounts of gas present in other parts of the abdomen, which is probably in the unfilled colon. A fluoroscopic examination made during this injection would have definitely shown whether there was an incomplete filling or an anomaly present. There is, however, undoubtedly a rather extreme sigmoid dilation present.

Further examinaton on this patient was requested and refused by the mother.

Progress and Treatment. Improved on buttermilk, fruit and correction of diet. Abdominal massage ordered once a day.

Conclusions: Abnormalities of the gastro-intestinal tract may be mechanical causes in the production of persistent constipation in children. The writer makes a plea for the more frequent use of the roentgenogram of the intestines and stomach in cases of chronic constipation, especially if dating from birth.

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BLOOD TRANSFUSION.*

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THE practical application of transfusion of human blood has only become available for general adoption in the past decade, an accomplishment that marks a step of tremendously great importance and value in the saving of human life. In fact only in the past four or five years have physicians in general been willing to accept this therapeutic measure as a reliable and safe procedure.

Search of history tells that early in the fifteenth century a Jewish physician attempted to save the life of Pope Innocent VII by a blood transfusion making use of boys as donors. In 1652 Francisco Folli attempted without success a similar procedure. Fourteen years later Richard Lawer carried blood from a dog's carotid into the jugular of another dog by means of quills, and later from a sheep's artery to a man by means of silver cannulas.

In the eighteenth century Tardy and Harwood first suggested direct vein to vein anastamosis. In 1818 Blundell, of England, drew blood from a dog into a vessel, and reinjected it into another dog by means of a syringe and a two way valve cannula. Not, however, until the present century did experiments and investigation lead to tangible and practical results. Crile and Carrell, and others of lesser note, first succeeded in performing successful human blood transfusion, as a result of work on blood vessel surgery with direct anastamosis of the artery of the donor to the vein of the recipient, and the use of special glass cannulas. Their methods, however, were elaborate in technique, demanded great skill in blood vessel surgery, and had the disadvantage of having no means of obtaining an exact measure of the amount of blood transfused.

In 1909 Brown and Legget first employed paraffin as a preventive of coagulation. This leads us to point out the chief obstacle to success in all efforts in the proceedure of blood transfusion, i. e. the inherent quality of blood to coagulate. Crile's success was due to the fact that he perfected a technique that made possible the approximation of the intima of the donor's artery to the intima of the recipient's vein. When, however, blood is brought in contact with air or any foreign substance coagulation at once begins.

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*Read before the Society of Ex-Internes of the Methodist Episcopal Hospital.

Kimpton and Brown, as well as Curtis and Davis, Risley and Irving, and Satterlee and Hoker, showed that paraffin prevents or delays this action, and the Kimpton's tubes, making use of this fact, proved a success. However even this method was rather elaborate, and the technique not applicable for general use by surgeons.

Meanwhile investigators were searching for other means to prevent or delay the coagulation of drawn human blood. Prof. L. Agote, of Buenos Ayres, in 1914 was the first to make use of sodium citrate as an anticoagulant, and at the same time Lewishon, of New York, made similar scientific investigation of this agent. also determining its toxicity in the human veins, and its proper preparation for use in transfusion. Agote showed that a dose of 0.25% is safe and amply sufficient to prevent coagulation, but did not determine the maximum safe dose. Lewishon determined the maximum dose to be five grams. Hustin, of Brussels, reported on the same subject a few months earlier, using blood mixed with sodium citrate and glucose.

Other workers, taking cognizance of the fact that some minutes are required for the establishment of the process of clotting, devised methods for the rapid transfer of blood by means of syringes and cannulas, which could be done before any coagulation had begun.

Thus in 1913 the late Dr. Lindeman published his multiple syringe technique, and following this Unger and Miller devised practical two-way valves by means of which a measured amount of unaltered blood could be transfused simply and safely.

Thus, it will be seen, have developed certain schools of enthusiasts, each backing one of the three chief methods of blood transfusion at present employed, each claiming a superiority for his own preferred method, or the one with which he happens to be most familiar. It is for the purpose of coming to some definite conclusion as to the relative merits of the known practical methods, that I have undertaken this review, and have made a search of the English writings on the topic. The search includes papers published through the year 1919.

I need not take time to include such methods as vessel anastamosis of Crile and others, which are safe and successful in the hands of a few experienced in blood vessel surgery, but which because of obvious difficulties must always be limited in use to the few; nor shall I include those methods that make use of connecting tubes of paraffined glass or irido-platinum (Brunner and Lespinasse) and which necessitate the sacrifice of artery and vein. The question then centres itself upon the two chief types, (a) Indirect method of the use of unaltered blood by means of syringes and cannulas or paraffined glass cylinders, and (2) the Citrate method (anti-coagulant).

CITRATE METHOD.

Lewishon, advocating this method, quotes the Mayo Clinic reports as stating that "in the past two years we have been using this method in between 900 and 1000 cases ,and in no instance, when chemically pure citrate has been used, has there been any untoward result attributed to the method." He (Lewishon) expresses the opinion that "beyond doubt the clinical efficiency of this method is absolutely equal to any other. Tests of the relative values of the two methods used in the same patients show the citrate method to be just as good and the citrated blood to be just as pure. The effectiveness of sodium citrate is due to its quality of changing the coagulation tendency during the process of transfusion without affecting any other quality of the blood. The small amount used plays no role in the chemical and the clinical qualities of the recipients blood after the operation. It is only efficient as an anticoagulant while the blood is outside the human body, and is rapidly excreted from the human body by the kidneys after being received."

To uphold this statement he offers no scientific proofs, and we believe a drug that retards coagulation in drawn blood must have at least some such appreciable effect in vivo, however slight it may be. If so the use of citrated blood must have definite disadvantages as a therapeutic agent in those diseases of the blood in which the clotting time is lengthened.

Graham, who has had considerable experience with all methods, summarizes his brief for citrated blood as follows: "It maintains blood fluid for days; it can be used several hours after the time it is drawn; withdrawal and preparation are simple; it has more tendency to reactions; reactions are not serious; can not use large quantities of blood because of toxicity; clotting time is shortened without increasing tendency to hemorrhage in recipient; patients need not be brought in direct contact with donor."

Snyder advises the method on similar grounds, and because it avoids danger of contamination, requires no skill in preparation, avoids danger of coagulation, can be carried to the bedside at a distance from donor, and the danger of hemolysis is reduced to a minimum by injecting 10 c. c. at first, and then waiting a few minutes for any signs of reaction.

"A Report of Transfusion of Blood for the Recently Injured" by a Committee of the A. E. F. (Crile, Boggs, Cannon, Moss, Vincent, and Lee) concludes as follows: "1. The method used in war should be the simplest, therefore the Committee has adopted the citrate method because:

(a) Simplest technique.

(b) Simplest equipment.

(c) It has given uniformly excellent results in a large number of cases and the presence of the citrate has resulted in no practical disadvantages. Any disadvantages that it may have, such as the use of a chemical reagent, and a possible diminution of coaguability of the recipient's blood, are virtually negligible. The paraffined tube method with whole blood, or the method of preserved cells (Robertson) have certain disadvantages, but the method of citrated blood has been adopted for general use because it is the most practical under the war conditions."

One must remember, however, that war conditions call for transfusion largely in acute hemorrhages, and not for blood diseases. Other advantages of the method are that donors give willingly the smaller amounts of blood (500 c. c.) when needled, and assured that the loss will not hurt them, and that the blood will quickly reform; whereas they object to having the veins cut down upon or destroyed. Moreover the amount of sodium citrate necessary in the transfusion of 500 c. c. of blood is well within the toxic dose of five grams.

Fleming and Porteous conclude their summary for the method by stating that the results are as good as others, in addition to the simplicity, applicability etc. That the method has certain disadvantages is shown by many observers.

Perry (Chicago) discussing Snyder's paper says: "Of all the methods, I think the citrate method will give the highest percentage of reactions. . . . Undoubtedly some change takes place in the blood as soon as it leaves the giver, and the most conspicuous change is that of clotting. The early changes incident to clotting are the appearance in the blood of abnormal proteins. The use of anticoagulants does not prevent this. . . . They simply arrest the process . . . "

Kimpton says: "Citrate transfusion defeats its own purpose for certain cases, and reaction are decidedly more common. Massive transfusions may be dangerous on account of approaching the toxic dose of sodium citrate. Spiedel says: "The citrate method is not free from danger," while Lespinasse points to certain disadvantages in that it is not applicable in certain pathological types of hemorrhagic disease because of the presence of a non-coagulation element, and that it causes slightly higher percentage of blood reactions than unmedicated blood. Frequently there is a temperature rise with or without chill up to 106° for one to ten hours, due to the ingestion of a foreign protein. Reactions are, moreover, more marked with multiple transfusions, and multiple donors, but there are no blood elements in the urine and vomitus as in true hemolytic changes. Sodium citrate is not so toxic in the smaller doses as in the larger amounts, but it cannot be denied that it is toxic. Lewishon puts the incidence of the reaction of chill at twenty per cent of cases.

Meleney, Stearns, Fontaine and Ferry report the same percentage of reactions in observations of one hundred and ninety-six cases by the citrate ad seventy-three by syringe cannula methods or 64% reactions. Sydenstriker puts the figure at 17%. Drinker and Brittingham state that reactions in the main are higher in the citrate method. The figure of 2.5° rise is set as a criterion for reactions, and the elements that make for reactions are (a) very rare gross incompatibilities that escape in vitro detection, (b) changes in the blood plates—part of the process of coagulation, (c) and direct action of the sodium citrate on the red cells promoting hemolysis.

These authors, who having had a broad experience in this and the syringe cannula method can speak in an unbiassed way, admit that no method is absolutely reaction free, and that early and partial products of coagulation are present in the recipient also after the use of the syringe-cannula, and the Kimpton and Brown paraffine tubes. They conclude, however, by stating that there is no practical method of citration of large quantities of blood which certainly prevents the early changes of coagulation. It simply arrests the process. The observation has been made that in patients in whom many transfusions have been done it has been increasingly difficult to find donors whose blood will match that of the patient, probably due to the presence of so-called isohemolysins. Therefore bloods should be matched and tested in all such cases as often as a transfusion is undertaken.

SYRINGE CANNULA-VALVE METHOD.

What are the advantages possessed by the citrate method that do not obain in this? Only one; i. e. the fact that the blood can be drawn from the donor and carried to the bedside of the patient, thereby causing less disturbance to the patient, and making less of a spectacular operative procedure. On the other hand this method is simple, the veins can be needled, as is done in the later technique, and not destroyed (Lindeman, Miller, etc.). It is quicker than any other method; the amount of blood can be exactly determined; risk of clotting is obviated; instruments are simple; it is the only safe methods for infants; it is applicable in any case and in any indicated disease; the amount is limited only by what the donor can spare; the blood is in its natural state (unmedicated); it is out of the body circulation a minimum length of time; it is free from reactions.

Lindeman reported 214 consecutive cases without a chill, and only a small percentage who had a rise of temperature of more than 2.5° or true reactions.

The four chief causes of reactions are: (1) hemolysis and agglutination, avoidable by making use of careful blood tests as devised by Moss; (2) Toxic substances that develop in the blood outside of the body, avoidable by reducing the time of blood transfer to the minimum; (3) chemicals such as anti-coagulants; (4) sensitization and anaphylaxis.

I have failed to find much information as to the comparative results of the two methods. Huck studies the question as to how hemoglobin and red cell values are raised after transfusion. Is it in direct proportion to the amount of blood introduced, or in other words purely a mechanical effect; or does the introduction of new blood set up reactions in the blood forming organs to activate succeeding changes in blood formation? This questoin has not been definitely and conclusively answered, and therefore the final decision may determine for small or large transfusion, and thus effect the questions of the relative values of citrated blood as against unmedicated blood.

The immediate results, as shown by hemanalysis are very inconstant. At times there is an immediate increase of red cells out of all proportion to the amount of blood transfused, indicating a redistribution of blood in the body; and sometimes an initial increase is followed in twenty-four hours by a fall to the previous level, and others maintain the increase after twenty-four hours. The hemoglobin rise is usually at the maximum at twenty-four hours, and the leucocytes are nearly always increased especially as regards the polymorphonuclears. Huck draws the concluson that these effects are essentially biological involving blood redistribution in the human body.

From our studies, and from personal experience with the Miller technique of transfusion of human blood, we can concede only one advantage possessed by the citrate method, namely that blood can be carried to the bedside of the patient, and so avoid the excitement and strain of being moved to the operating room. On the other hand, in the use of the syringe-valve-cannula method, we have at our command a means of transfusion applicable in all cases in civilian practice at least, in all diseases calling for this therapeutic measure, and with the minimum risk of reactions or any serious danger to the patient, and with no limitations as to dosage in so far as the recipient is concerned.

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RATIONALE OF THE SEPTUM OPERATION.

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THE nose is a sign of race and a mark of the individual. As Cyrano said (in the play) "it's the nose that makes the poet and the soldier." And this isn't all fancy. We find for instance, as we ascend the racial scale, that the nose changes externally and internally. The external changes are well known. Some would have it that the nose develops even as we ascend the social scale and becomes an index of character and personality. However this may be, anthropologists have noted a progressive inclination of the facial angle as we proceed from the anthropoid ape to the European, and along with this Morell Mackensie, Zukerkandyl, Potiquet and others have observed a corresponding frequency of septal deformity. Septal deformity of some degree—not necessarily pathological—exists in over 75% of Europeans, whereas in the Negro and Mongol, the percentage is less than 20. I presume that nature aims at the ideal—a nose adapted to meet the requirements of an exacting environment—but seldom achieves it. This seems to be a law of evolution and is true of other organs. Many specific explanations have been advanced for his tendency to septal deformity. Morgagni claimed that the fault was inherent in the septum itself. At an early period of development the vomer consists of two separate laminae enclosing between them a plate of cartilage which is prolonged forward to form the cartilaginous portion of the septum. The classification of the two plates of the vomer begins at the sixth week of foetal life and continues until puberty. At about the third year they begin to coalesce from behind forward. It will be readily perceived that any assymetry in this process will not only produce thickenings—ridges and spurs—but will tend to throw the septal cartilage out of alignment. This condition may be also produced—frequently so according to Trendelenberg and Freeman—by the persistence of the high arched or gothic palate which is normal in infants. Such persistence is doubtless one of the sequels of early adenoid obstruction. According to Talbot, septal deformity is a stigma of degeneracy, analogous in this respect to pigeon chest, webb fingers, etc. Finally Bosworth, with a more practical turn of mind, declares that all septal defects are traumatic and especially emphasizes the importance of slight trauma repeatedly applied. Whatever their cause, the fact remains that septal deformities are common, especially in that class which forms the bulk of our clientele. Also, there is evidence—volumes of clinical data—to show that these deformities cause symptoms either from functional alterations or deep seated organic changes, and therefore require correction. The nose is a complex mechanism and subserves health by combining in most delicate balance functions highly dissimilar. It is more than an air vent. In normal respiration there is a constant and ideal relation between the size of the air passages and the capacity of the lungs. Moreover there is a constant natural tendency to equalize the air currents on the two sides even in the presence of pathological impediments. When, for insance, there is a deflection of the septum causing contraction of one nostril with a corresponding enlargement of the other, there is gradually produced a compensatory enlargement of the inferior turbinate on the larger side. This is of course at the expense of the total nasal capacity. In its development from the original primordial pouch or stomodeum, the nose with all its complicated halls and passage ways—the accessory sinuses, the eustachean tube and the middle ear—never ceases to be a common cavity. In health every recess and pocket is subjected to a constant and uniform air tension. They are also open to the same sources of infection. Finally, the nose is a protective organ, a heating system, and a scavenger combined. It houses the organ of smell and is a resonance chamber. These are in brief the considerations upon which are based our understanding of nasal pathology, the premises from which we draw deductions in our estimation of the possible effects of septal deflection. The septum contributes little to the nasal functions. When deformed however, it detracts considerably from their close harmony. Like the appendix, the gall bladder and the tonsils, it is one of the hurdles we must take in our evolution toward physical perfection. Thus it comes about that the septal resection is the basic nasal operation, the starting point toward much of our nasal therapeutics.

Aiming to be orderly, I attempted a classification of the indications for septum operation basing this classification upon the symptoms produced. I found however that the categories overlapped and became hopelessly involved. This is because a deflected septum may produce the most unexpected and remote effects. We may for instance do a septum operation to relieve a cough, to cure a laryngitis, a headache, a buzzing ear or even to add three notes to the upper register of an aspiring singer. Although it is contrary to the usual method of diagnosis, it is easier for the Rhinologist at least to work from cause to effect in estimating the results of septal deformity. He can do this because he is accustomed to examine the nose as a matter of routine, a thing which the general practitioner should do.

Ballenger in his text book gives a classification of septal deflections based upon the type and location of the deformity. In regard to the location of the deformity and especially to the relation it bears to adjacent structures, this seems a reasonable angle of approach. The type of the deformity may be entirely disregarded, as the modern septum operation is equally adapted to all types.

First of all therefore, we have deflections which block the air stream—the passage of air to the lungs, to the sinuses and to the eustachian tubes and middle ears. The obstruction depending upon its size, location and the width of the nasal passages, may be absolute or relative. If absolute, we have complete obstruction and persistent mouth breathing, with the usual symptoms of such. If the obstruction is relative—i. e. incomplete or intermittent, we not only have symptoms of mouth breathing—these usually being less marked—but symptoms produced indirectly by the effort to breathe through a partially obstructed nose. As the diaphragm descends in inspiration, air is sucked through the nostrils. If there is any impediment to its free passage, there is produced back of the impediment a negative pressure or partial vacuum. This may be felt in the ears, eustachian tubes and post nasal spaces or if the obstruction is anterior and high up, in the sinuses. As a result of this negative pressure, we have produced a passive congestion—so-called vacuum congestion—and with the addition of infection, all degrees of hyperaemia, turgescence or actual hyperplasia. If furthermore, the septal spur or deflection actually impinges upon the turbinates, we have an aggravation of the above conditions and, if the point of contact is in the region of the middle turbinate we may have in addition, certain disturbances due to the peculiarity of the structures directly involved—i. e. the middle turbinates—and their intimate relation to ostia of all the anterior accessory sinuses. The clinical conditions produced by this pathological sequence, include all forms of rhinitis; post nasal catarrh with its congestion and thickening of mucosa and hyper-stimulation of the mucous glands; all degrees of that most comprehensive of all conditions—chronic catarrhal deafness—from a simple congestion of the tubal orifices to an extensive involvement of the structures in the middle ear; all degrees of sinus disease from a simple vacuum congestion to the destructive empyemas with their drainage problems.

Thus we see that the nose is a complex organ which seldom reaches the ideal of functioning capacity; that its functions are various and their relations to health important; and that septal deformities form the basis and starting point of much of its pathology. An operation such as the sub-mucous resection of the septum is therefore an ideal therapeutic procedure applied not to the temporary palliation of symptoms but to the permanent removal of their cause.

DENTAL STIGMATA IN THE DIAGNOSIS OF OBSCURE CONGENITAL LUES.

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THE diagnosis of typical congenital lues especially in the new born is usually readily made, but there are many cases in the older child of the school age which are rather baffling. Many children of this school age of from six years to puberty come to the pediatric or nutrition clinic presenting vague obscure symptoms which are hard to account for.

In these typical or obscure conditions any available aid in the diagnosis should be made the most of, and it would seem that certain dental abnormalities or stigmata have not been given the attention they deserve as diagnostic points. The classical Hutchinson tooth is comparatively rarely seen even in clinics with a large attendance, and if this particular form of tooth is to be looked upon as the only characteristic one in congenital lues, then many cases will be overlooked or at any rate, much valuable time will be lost in treatment.

Furthermore, the routine performance of the Wassermann test will not invariably settle the diagnosis, as many cases which are clinically luetic give a persistently negative blood test, while, on the other hand, other cases which are clinically cured remain "Wassermann fast."

Malnutrition in children is so common and widespread that any point which will help to clear up its etiology must be given careful consideration. It is no longer sufficient in any branch of medicine to make a diagnosis of a given diseased condition without, at the same time, striving to get at the bottom of its etiology. Even in the face of a negative Wassermann reaction certain dental stigmata may put the clinician on the right track and turn the tide in favor of the patient.

It is a very safe rule to constantly bear in mind two diseases in the study of chronic and obscure cases, namely tuberculosis and syphilis. Tuberculosis is so often glandular in its early stages in children, that all glands should be under suspicion, not forgetting the mediastinal group, where D'Espine's sign and the x-ray will usually clinch the diagnosis. The VonPirquet test is now known to be unreliable, except in the youngest children, and therefore of little value in the older child unless persistently negative. However, there are many cases where physical findings are unsatisfactory and where the differential diagnosis between tuberculosis and syphilis is very difficult. It is in this class of cases, especially, that careful inspection of the teeth is of great help, not only in diagnosis, but also in prognosis and treatment.

In addition to the Hutchinson tooth there have been many dental abnormalities described as associated with congenital lues. Cavallaro of Florence, Italy, in 1908-09, in a series of articles described horizontal grooves on the teeth, dental infantilism, cup-shaped erosions on the deciduous molars, and cuspal atrophy of the first permanent molars as being signs of diagnostic importance. In 1917 Roberts of New York in addition to verifying Cavallaro's views, and agreeing that Hutchinson's teeth are only one of many types of dental stigmata, drew attention to a new sign which he thinks is often the only dental irregularity in congenital lues.

This sign is an abnormal spacing of the upper central incisors of the second set, which incisors are inclined to be long and somewhat cylindrical. Naturally, this sign is of most value when the permanent set of teeth have fully erupted. In the same year of 1917, Sabouraud of Paris first described a mamillary eminence or accessory cusp on the lingual side of the first upper permanent molar, asserting that it is invariably associated with syphilitic heredity, and even alone a sufficient guarantee of its existence. He found the Wassermann test uniformly positive in twenty cases observed by him.

The writer of the present article after careful observation in a large number of cases believes that the accessory cusp is of more diagnostic importance than the separation of the incisors, although the latter sign is also valuable, and the two conditions often co-exist in the same case.

While it is true that these stigmata are sometimes met with in children who are apparently in perfect health, nevertheless, in every instance, their presence is presumptive evidence or, at least, suspicious of congenital lues.

This latent or concealed type of luetic process may be of the most benign type for a long period and then suddenly flare up and produce serious disease or disturbance.

Furthermore, these atypical cases are dangerous because they are not easily recognized, and therefore usually remain untreated. Roberts states that in his orthopedic work he hesitates to call any joint condition a tuberculous one until the mixed treatment has been tried, even if the Wassermann is negative.

Many cases of malnutrition, vertigo, severe headaches, indigestion, fainting spells, and joint conditions have been seen in past few years where the teeth gave the first and often the only clue to the diagnosis, and where the first improvement in the child's condition followed the institution of the mixed treatment. Children, especially those of the school age, take this treatment well. A boy of eight years will readily take 1/64 grain of mercury bichloride combined with four grains of potassium iodide three times a day, and it is not unusual to find 1/32 grain of the mercury salt well tolerated.

Salivation is almost unknown in children from the administration of mercury, and in the older child diarrhea is an uncommon occurrence in the treatment, although pharyngitis and symptoms of acute coryza will sometimes warn that a temporary suppression of treatment must be resorted to.

This article was prompted by the satisfactory outcome of a number of cases where the diagnosis and correct line of treatment were arrived at solely from close attention and search for the dental stigmata above considered, after every clinical and laboratory aid had been resorted to.

The experience of these cases has resulted in a firm belief that the teeth are of distinct diagnostic importance in obscure cases, and that the most important dental signs are the separation of the upper central permanent incisors, and the presence of an accessory cusp on any or all of the permanent molars. Either or both of these signs may safely be made an indication for the exhibition of the mixed treatment.

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INTRAABDOMINAL CYST OF TRAUMATIC ORIGIN.

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M. S., a girl of thirteen years, of Jewish parentage, was admitted to the service of Dr. Russell S. Fowler at the Methodist Episcopal Hospital on August 6, 1919, with the following history: Ten days previous, while playing on the street, she collided with a push-cart, the handle of which struck her in the upper abdomen on the left side. She was put to bed and apparently was fairly well for a few days except for considerable tenderness and a little pain in the left hypochondrium. Three days prior to admission, the pain and tenderness greatly increased and she became much sicker. Vomiting ensued and was persistent, and during the past twenty-four hours, a swelling was noticed at the site of the injury. Bowels had been very constipated since the accident.

Physical examination showed a young girl very sick, features drawn, pupils dilated, breathing fast and jerky, groaning constantly, in mild shock. Tongue coated. Breath sounds generally exaggerated—no rales—expansion of left lower chest distinctly impaired. Heart sounds rapid, fair quality; no murmurs. Examination of abdomen revealed a large immovable mass in left upper quadrant extending from the free border of the ribs to one inch below the level of the umbilicus and from the mid-line to the anterior axillary line. Distinct dullness over tumor mass—tympanitic elsewhere over abdomen; abdominal tenderness generally distributed, but most marked over tumor; muscular rigidity most pronounced in left upper quadrant.

Temperature 102° F.—pulse 130—respirations 40.

Blood Count—white cells 32,500 with 88% poly-cells.

Preoperative diagnosis: 1. Abdominal abscess—from slow leak of ruptured gut. 2. Abdominal hemorrhage.

Operation. Abdominal cavity was opened by a five-inch left rectus incision extending from the free border of the ribs to the umbilicus. This revealed a large tense mass filling the lesser peritoneal cavity; breaking through the omentum permitted the escape of about two pints of old dark blood with some clots. Blood was sponged away and a bleeding vein in the gastro-hepatic omentum was clamped and ligated. Split tube to Foramen of Winslow and loose gauze packing were inserted. Layer closure of abdominal wall.

For the first week of her convalescence, patient vomited repeatedly and had many attacks of sharp, cramp-like abdominal pain with moderate tympanites. Temperature dropped to normal on the third day but rose occasionally to 100° F. or 100.5° F. for a week thereafter. There was a slight amount of purulent discharge from the upper angle of the wound for two weeks; drainage was discontinued on the seventeenth day and she was discharged cured one month after her admission.

This patient was discharged from the hospital on September 7, 1919, and was not seen again by me till January 25, 1920, when she was brought by her mother to my office with the following history: She said that during the previous two or three weeks she had had a dull pain at the site of her abdominal incision with occasional sharp cramp-like pains. Exercising, going up and down stairs, or walking increased the pain; rest in bed alleviated it. During the past week these symptoms had increased in their severity, the pains becoming sharper and radiating to the back. There had been no fever; appetite fair; bowels costive but moved by cathartics.

Examination revealed a firm rounded mass in the left upper quadrant of the abdomen extending from just below the free border of the ribs to the level of the umbilicus. This tumor extended well posteriorly and could readily be moved between the examining hands, with one hand in the left kidney region, and was moderately tender.

She was admitted to the Methodist Episcopal Hospital on January 25, 1920. She had no elevation of temperature; the tumor mass cast no shadow on the X-ray plate. Blood count showed 12,000 white cells with 60% poly-cells. Rest in bed for a few days alleviated her symptoms considerably. Provisional diagnosis of encapsulated blood clot or abscess was made.

Operation. Left rectus incision—one inch to inner side of old scar. Many adhesions of omentum and intestines to abdominal wall were separated. A firm, hard tumor about the size of a small grape-fruit, but oval in shape, was disclosed in the lesser peritoneal cavity occupying the site where the blood and blood-clot had been found at the previous operation. This mass was carefully dissected free from the stomach and intestines which were firmly adherent to it, and removed. Cigarette drain inserted in cavity; omental tear closed; abdominal wall closed in layers.

On removal, the tumor felt distinctly cystic. Incision into it showed a wall a quarter of an inch in thickness, containing about thirteen ounces of cloudy yellow fluid with a small amount of bright yellow spongy material adherent to the interior. The lining was shiny and glistening.

Convalescence was uneventful; wound healed by primary union and patient was discharged on the sixteenth day.

FETAL AND NEW-BORN MORTALITY.

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THE reasons for deaths of fetuses and new-borns are of major importance to the world in general and include the consideration of several of the allied subjects of medicine, at first glance seemingly remote. In the investigation of this subject one must start, naturally, with the period of conception and continue on throughout the pregnancy, labor and the immediate post-natal life.

That many of the causes entering into the death rate are not at present readily or satisfactorily explainable is common knowledge; instances of this nature include cases of abortion, miscarriage and premature labor of, so-called, spontaneous nature.

In this summary are gathered the records of 1722 pregnancies, some of which terminated before the period of viability of the fetus and this element alone contributed markedly to the mortality of practically every classification but especially to that of prematurity.

From these 1722 pregnancies there resulted 215 deaths or a mortality of 12.4%; in other words one-eighth of all these women lost their babies, for one reason or another, some intentionally and this factor will always remain more or less an unknown quantity.

These fetuses and new-borns weighed at birth from 13 ounces to 10 pounds and 9 ounces; a wide variation. Forty per cent. or 86 of the 215 were born alive and lived from a few minutes to 34 days; while 60% or 129 of the 215 were still-born. Of the still-born 60 were premature, (under 5 pounds), and 69 mature or over that weight.

At times more than one factor may have entered into the fatal issue but the cases were assigned to a single cause and in these cases the one that seemed the basic cause; for instance, syphilis was complicated by placenta previa in four cases and the deaths in these was assigned to syphilis. The diagnoses were either confirmed or corrected in 127 cases, or 58%, by autopsies. The chief causes of death will be considered in the order of frequency:

Syphilis. This condition accounted for 59 or 27.44% of the deaths and was by far the greatest single factor in the mortality. These results agree with those of J. W. Williams who attributed 26.4% of his fatalities out of 70% to that disease; while Holt. using the records of Sloan Maternity Hospital, found only 6.6% of the 720 deaths diagnosed as due to that cause. I am firmly convinced that the larger figures approach the correct estimate; weight is added to this conviction by the following factors; William's diagnoses were aided by almost universal microscopic examinations of the placenta supplemented in many instances by autopsies; ours by the use of the routine Wassermann reaction in mother and fetus, supplemented not infrequently by autopsies and placental examinations, whereas the results from Sloan show little use of the Wassermann and no mention of placental examinations.

That syphilis is best detected, due emphasis being placed upon early recogntion, by the use of the routine Wassermann, is born out by my report to this society in 1916 and also by subsequent reports by many other investigators since that time.

Early and intense treatment of these positive women seems to offer the best results for both mother and child and if carried out should place syphilis low on the list of new-born mortality, instead of at the top where it now stands.

Prematurity. This condition accounted for 36 deaths or 16.74% of the total, in this respect our records approach those of Holt, 22.3% and deviate from those of Williams' 7.1%; this may be accounted for in so far as Williams is concerned by the method we used; whereas the author quoted excluded nonviable fetuses and infants who lived more than 14 days, both these are included in this report. Eight of the infants here reported lived over 14 days and in this order; 1 for 19 days, 3 for 20 days, and 1 each for 28, 31, 32 and 34 days. Eight of the remaining prematures were still born, 5 of which weighed less than 2 pounds, 2 less than 3 pounds and 1 weighed 3 pounds and 2 ounces. The remaining 20 infants born alive are classified by weight as follows: 3 less than 2 pounds, 4 less than 3 pounds, 9 less than 4 pounds and 5 between 4 and 5 pounds. From this you can see that the material to work with in itself predestined a high mortality and it has been our experience that infants weighing 4 pounds or less have little chance of existence, even under the best conditions.

In assigning prematurity as a cause of death I am conscious of the fact that the diagnosis is not always an accurate one and too frequently does not show just where the trouble started. The best results in these cases will be attained by locating the cause of the premature expulsion of the fetus and correcting it where possible; but irrespective of this acknowledgment must be made that prematurity will always be a factor to demand treatment and care; therefore provision for these infants is imperative.

In the treatment of these infants it has been observed that some of them seem to have a greater ability to live than others and this is irrespective of their weight or size and in the cases of those living for some time it has been my experience that sepsis or infection not infrequently terminated their existence.

Incubators have given us extremely poor results: They demand the closest attention and are difficult if not impossible to regulate as to temperature, humidity and ventilation. We have had much better results with a premature room. This is heated by steam, well ventilated, with sufficient heating capacity to allow of free entrance and exit of air without change of temperature and the moisture is maintained by the constant injection of live steam. The temperature and humidity in this room are written upon charts, by self-recording instruments; the charts are changed weekly and the instruments are locked to prevent tampering. Since the use of this room, we have not had subnormal temperatures (a frequent occurrence formerly), the babies' tongues have been moist at all times, indicating ample humidity and fresh air; but one problem yet remains to be solved and that is the food supply. It is imperative in most of the cases to have breast milk of proper quantity and quality and until this can be furnished our results will fall far short of my desires.

Toxaemias. This was intrumental in the death of 27 infants of this series or 12.5%; Williams results showed only 6.5% mortality from this cause but he remarks that toxaemia is three times more common in the white women than her colored sister and since his cases consisted of about an equal number of the two colors, the seeming disagreement between my 12.5% and his 6.5% may not be a real difference because a very small minority of our women are colored.

Most of these 27 women came to us in a desperate condition, as a rule with dead fetuses in utero after one or more convulsions at home; some developed under our very eyes and this irrespective of weekly complete physical examinations, supplimented by urine examinations and blood pressure readings at the same interval. Hope for a lessened mortality from this cause, will come from the continued close observation in all cases and the ultimate finding of the etiological factors of these conditions.

In the cases of live-born infants of these toxaemic mothers' it should be constantly born in mind that the babies are suffering from the same poisoning as the mothers and therefore treatment to encourage elimination of the toxin should be started at once.

Unknown. In 26 deaths, we were unable to assign any cause, and in most of these cases this was irrespective of post-mortem. Twelve per cent of our infants died from no known cause that we could determine and only 5 of these infants were under 5 pounds at birth. Bacon has stated that 15% of the intra-partem mortality is due to abnormal uterine contractions. Williams and Holt report 18% and 13.2% of their deaths as due to unknown causes.

Dystocia. Abnormal and difficult labors, exclusive of those causing haemorrhage, accounted for 22 of our deaths or 10.2% whereas Williams and Holt's results give 17.6% and 23.2% mortality respectively. That hospital statistics will be greater in this respect than the individual in private is a well known fact, simply because the hospital becomes the dumping ground for the failures in its locality. Seven of these cases came to us after attempts to deliver outside and in no case was the fetus alive at the time of admission. Five cases resulted from poor judgment in the hospital and the remaining 10 cases seemed to be the inevitable result of labor in these women; after reviewing these histories I am unable to suggest any change in the treatment that would have ended more favorably.

In this field closer observation, better obstetrics generally and earlier reference of suspected cases may lead to better results. Here are a few of the problems encountered; breech delivery, dry-labor, coils of cord about the body, high forcep operations.

Placenta Previa. This was the etiology of 7 or 3.2% of the cases and may have been a contributing cause in 4 other cases of still-born infants whose mothers had syphilis and are included under that heading. The 7 infants reported were all still-born but one, which lived 45 minutes and this child had a congenital defect of the abdominal wall. Most of this mortality is at present unpreventable.

Premature Separation of the Placenta. This complication was responsible for 6 deaths or 2.7% of all. That the condition in the severe cases is almost always fatal to the fetus and not infrequently to the mother, is well known, therefore early and radical treatment is indicated.

Various Causes. Here have been gathered 32 deaths, 14.8% of the total caused by 15 different conditions. Some of the causes were maternal, some fetal and in 3 instances, although other factors may have contributed, it is my opinion that pituitary extract was mainly responsible. The majority of these deaths could not have been prevented; 7 of them were due to congenital malformations incompatable with life, while six (6), were caused by conditions of the mother that precluded live children. Sepsis carried off 5 as was to be expected from their premature condition and inherited lack of resistance.

As a conclusion may I invoke your assistance for the more frequent use of the Wassermann reaction to diagnose and eradicate the greatest of all causes of infant mortality.

Table of Case Reports.

	Premature	Mature	Total	%
Syphilis	32	27	59	27.44
Prematurity	36	0	36	16.74
Toxaemia	16	11	27	12.5
Unknown	5	21	26	12.0
Dystocia	1	21	22	10.2
Placenta previa	3	4	7	3.2
Premature Separation of placenta	2	4	6	2.7
Various causes as follows:	18	14	32	14.8
Prolapse of cord	3	0	3	1.34
Cord about body	0	1	1	0.46
Pituitrin	0	3	3	1.34
Atalectases	1	2	3	1.34
Cong. Malf. Heart	1	2	3	1.34
Cong. Malf. Intestine	0	2	2	0.9
Hydrocephalus	0	2	2	0.9
Cerebral Hemorrhage (spontaneous)	0	2	2	0.9
Oedema of fetus	0	1	1	0.46
Status Lymphaticus	0	1	1	0.46
Sepsis	4	1	5	2.0
Previous operation on Uterus	2	0	2	0.9
Ruptured Uterus (old scar)	1	0	1	0.46
Malformation of Uterus	2	0	2	0.9
(congenital double) one fetus in each uterus one 3 and one 6½ mo.				
Heart disease of Mother	0	1	1	0.46

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* Read before the Brooklyn Gynaecological Society.

WHAT'S IN A NEM? WHY IS A NEM?

Louis C. Ager, M. D.

Brooklyn, N. Y.

THE first question can be answered very readily. A NEM is two-thirds of a calorie.

The second requires considerable explanation. Although it cannot be claimed that this recent product of Prof. Von Pirquet's fertile brain has actually arrived in this country, it has begun to receive so much attention that the wise ones among the medical profession would do well to have at least a speaking acquaintance with it. Its rather startling companions,—gelidusi, stakudugi, siqua and the like,—may be safely ignored for the present at least.

As a matter of fact Von Pirquet probably had no intention of trying to substitute the nem for the calorie in scientific work. In his brilliant efforts to ration food in Vienna he decided that a food unit rather than a heat unit would best serve the purpose of interesting the general public. His idea seems to have been that if he told the Austrian people that their food allowance was equal to 3500 grams of milk they would be better satisfied than if he told them that they were receiving 3000 calories. He very naturally selected milk as the most nearly balanced food and took one gram of milk for his "Naehrungs-Einheit-Menge,"—General nutrition Unit (NEM for short). As one ounce of milk equals 31 grams and carries about 20 calories, a nem is equal to two-thirds of a calorie.

This first step in the professor's work is simple and has considerable practical value. That is, there are times and conditions when a basic food unit may be of more use in calculating food values than an abstract heat unit. Nevertheless there is a dangerous fallacy in stating, for example that one gram of sugar equals six nems, while it is entirely correct to say that one gram of sugar has six times as many calories as one gram of milk. Von Pirquet seems to have ignored this distinction completely, for he makes the statement that a mixture of equal parts of milk and a 17% aqueous cane sugar solution has the same food value as whole milk.

Just why the professor should have taken his next step and thrown overboard all the previous calculations of the food requirements of human beings, it is difficult for a mere clinician to understand. His results do not differ very materially from those of previous workers and have no more logical basis. The weight of the indivdual would seem to be as logical an indicator of his food requirement as his sitting height, which is the starting point of all Von Pirquet's calculations. He designates this sitting height

$(0.5\ n\ Si^2 \qquad)$

by the term Si and works out a formula, (0.5 nem Si square), for determining the food requirement. That is, the food requirement

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See Am. J. Dis. of Ch. June 1920 and Jour. A. M. A. July 31, 1920.

of an infant during his first half year is the square of his sitting height, measured in centimeters, times a half nem. It does not seem probable that that kind of mental gymnastics will become popular with general practitioners of this country.

How much Prof. Von Pirquet's remarkable success under almost insuperable difficulties has been due to his excursion into psychology and how much to his very unusual ability as an organizer does not concern us. The practical point for us is that many of the nurses and social workers returning from relief work in Austria have become expert in this system of infant feeding, and are enthusiastic over the results secured with it in Vienna. It is quite probable, therefore that attempts will be made to introduce it here by some of those who have been trained in its practical application, and American physicians should be in a position to pass judgment upon it. It would be very easy to lose sight of the absolute difference in the conditions under which baby welfare work is carried on in this country from those in Vienna during the war. The paramount objective in Von Pirquet's system was to distribute a hopelessly inadequate milk supply so accurately that no infant should receive a single gram more than was required to maintain an equilibrium, and to discover and make use of the food substitutes that would best take the place of the milk. We may be sincerely thankful that we have never yet come to such straits in this country.

Furthermore the success of the system was in no way due to the method of making the calculations, but to the enthusiastic support of the workers, keyed up by war conditions; and to the thorough cooperation of the mothers, rendered compulsory by food conditions. The same general team work throughout Greater New York for example, without any change in our methods of feeding would show fully as good results as would be the case if the Von Pirquet calculations were employed. It may be true, as Prof. Von Pirquet states, that fat is not at all essential in infant feeding, and that a baby may be fed from birth on skim milk and carbohydrates without injury, but it is to be hoped that no such fad will be introduced into any of our clinics.

BRONCHIAL ASTHMA.

Delmer D. Durgin, M. D.

Central Islip, L. I., N. Y.

MY PRIMARY intention in this resumé is a word in the treatment of asthma from what seems theoretically correct and which in practice I have found in every case successful. I shall not prolong the subject by touching upon the symptomatology which is not only clear to the profession, but pretty well understood by the laity.

However, in brief, I wish to take up, what asthma really is; just what really happens in the chest that causes the disturbance. Asthma, in the sense used here is with reference particularly to the bronchial dyspnoeas and not to various cardiac or renal dyspnoeas which we sometimes hear improperly tagged with the term asthma. I believe that it is becoming generally accepted that asthma is a neurosis with either spasmodic contraction of the bronchial muscles or vascular engorgement of the bronchial mucosa, perhaps due to a disturbance of the inhibitory action of the bronchial vasomotor mechanism causing marked capillary dilatation and thus shutting off of the normal air capacity, resulting in dyspnoea, both difficulty in getting air in and out of the lung with its accompanying wheeze, etc.

Soon, if our *Vasomotor Theory* is correct which I choose to maintain, it is only common osmosis that would bring about moist rales which appear secondly adding noise to the quite active band, and continued trouble naturally giving rise to our so well described sputum with "PERLES" of Laennec, von Curschmanns spirals and Lyden's crystals, etc. While working upon this basis, what safe and sane agent will overcome this trouble?

We are hearing more and more of endocrine disorders and rightly so, for if our bodies were in proper order, sickness would be lessened. Whether or not asthma is a direct result of internal secretion deficiency—remains to be established.

However, to the end in view of combatting the primary difficulties, it is at once observed that adrenal extract or adrenalin has much that can be said in its favor and in brief as follows:

First: The removal of the glands in guinea pigs finally produces death by failure of respiration and thus it would seem that it has a selective action upon respiration.

Second: It is a vasomotor stimulant causing contraction of the arterioles, yet slows and strengthens the heart's action through the vagus and cardiac motor ganglia.

Third: It is safe and free from habit forming dangers.

Fourth: It is feeding the patient that which is normally produced in the body.

Fifth: It works with almost immediate relief.

For the attack, I give ten (10) minims by hypo of 1-1000 solution of Adrenalin Chloride as put up by Parke Davis.

As a preventative and systemic course it is more agreeable to the patient to use ingestion preparations being mindful not to over-prescribe when not needed and thereby keeping an unnecssarily artificial increased blood pressure.

NEW YORK STATE'S RADIUM.*

Statement made by Dr. Harvey R. Gaylord, one of the Directors of this Society and Director of the State Institute for the Study of Malignant Disease, Buffalo, New York.

"THE people of the State of New York will want to receive a statement on the stewardship of the purchase of 2¼ grams of radium for which $225,000 was appropriated by the State, and announcement of which was made by Governor Smith a few days ago.

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*From the American Society for the Control of Cancer, 25 West 45th Street, New York City.

"I am very glad to take this opportunity both in the name of the Institute for the Study of Malignant Disease, the State and the American Society for the Control of Cancer which supported this purchase to say these words:

"The experiment in state ownership of a therapeutic agent, as exemplified in the purchase of this radium for social utility will have a far reaching effect. This is a development of state medicine to which no one can object and Governor Smith deserves the thanks of the State for what he did."

"Any citizen of the United States" said Doctor Gaylord, "may avail himself gratuitously after October 15th of treatment with the 2¼ grams valued at $225,000 recently purchased by New York State and the first gram of which was delivered by the Radio Chemical Corporation of New York last week. Preference, however, will be given to citizens of New York State.

"The first gram is now in the vaults of the Institute at Buffalo and the appliances necessary for its use in the treatment of cancer are now in course of construction. The engagement of a competent physicist to work with this radium is also announced. The radium we are using is an American product, mined in Colorado, brought 2900 miles across the continent in the form of 125 tons of carnotite ore to the extraction plant at Orange, N. J., where it was reduced by fractional crystallization to its present state.

"The first purchase of radium by any State" the Doctor continued, "marks a step in the health activities of an American Commonwealth. Up to the present we have had no therapeutic agents, so expensive that they could not be afforded by the average practitioner. In the case of radium that condition arises. The unit for efficient use costs not less than $12,000 and represents 100 milligrams. A gram is worth 120,000. The greater the quantity in an installation the more efficient it is, and the less it costs per treatment. New York State has met this condition by purchasing an amount available for all its citizens.

"The value of radium has already arrived at a stage where States, and if necessary the Government, should make radium vailable for cancer treatment, gratuitously and beyond the realm of financial limitations. The advent of radium as a therapeutic measure is the most important forward step in the treatment of cancer.

"It is not surprising that when radium first made its appearance over-optimistic claims for its use and hope of its utility should have occurred. But that time is now past. Radium has been made available in smaller and larger amounts to all of the important centers of cancer research in this country, with the result that not alone has new knowledge of this agent been greatly advanced but the technique of its use as well as its limitations have been more definitely defined. The last six years have marked steady progress in its application, and means of more scientifically and more efficaciously employing it have been developed.

"The State Institute as a result of carefully controlled scientific experiment in its hospital felt that the time had come when the State of New York should logically provide an adequate amount of radium for the Institute on the basis that its value is so definitely demonstrated that it should be made available without cost to the citizens of the State and that the opportunities for research should now be extended along practical lines. The State Institute has had since 1914 an amount of radium sufficient for scientific study. Private philanthropy has given the Memorial Hospital in New York City a large amount of radium for scientific investigation and practical application for the past four years. The Cancer Research Commission of Harvard University has also had an adequate working supply. The advances made in these and other quarters has steadily strengthened the confidence in the use of this agent and all of these centers are now seeking means to increase their supply.

"The State of New York which in 1898 took the lead by founding the first modern State cancer research institute in this country should properly be made the first state to appropriate the necessary funds for the purchase of a sufficient amount of radium for the use of its citizens having available for this purpose a center of cancer knowledge and fully equipped scientific research laboratories where its use can be made immediately effective, and from which scientific progress can be confidently anticipated.

"The usefulness of radium in the treatment of neoplasms is still in its infancy, but there are already certain kinds of cancer in which its use offers advantages and the results obtained are an improvement upon any means we have heretofore possessed. It must, however, be remembered that our main reliance in the treatment of cancer is surgery but radium in combination with surgery, frequently greatly improves the prospective cure.

"The scientific development of the last two years in the use of radium, largely through the work of Professor William Duane of Harvard University, made available a means of using radium which has immensely strengthened its usefulness. This method is the use of the emanation of radium in place of the application of radium itself. This method is only available when you have at least one gram.

"Cancer today is one of the most important diseases in the United States. It increases 25 per cent every ten years. In the United States 90,000 deaths occur yearly from it, being of equal importance to tuberculosis. In New York State about 8000 deaths occur yearly.

"The purchase of the radium has other significance than merely its use for the treatment of cancer. It gives an opportunity for research and its use under scientific conditions is sure to increase our knowledge of cancer. While surgery still remains our main reliance in the fight against cancer we can only hope greatly to improve the results of surgery by bringing the patient to surgical treatment at the earliest possible moment. This can only be accomplished by the diffusion of knowledge among the laity of the first beginnings of cancer. It is with such work as this, that the Society for the Control of Cancer has particularly charged itself. It is felt by the Society that the advent of an alternative will overcome the reluctance of many cases to present themselves to their physicians. The Society represents 900 physicians and laymen and looks with great interest at the purchase and congratulates New York upon the step it has taken.

"The purchase of this radium by an American Commonwealth from an American Company which has mined its ore in the State of Colorado, will bring still further to the fore the preeminence of America in the treatment of cancer. Buffalo will become a radium center. While Europe, through Madam Curie, first made the precious element known to the world, the United States has developed both the ore, its extraction and its use as a therapeutic agent. It is today in the forefront of treatment of cancer. This purchase may have a tremendous effect upon further progress in this direction."

EDITORIAL

HAY FEVER.

WE HAVE been privileged to peruse, as the backwoods editor phrased it, a remarkable contribution to science from the pen of J. N. Firth, D. C., Ph. C. The initials leave us in some doubt as to the sex (for J. may stand for John, Joseph, Johanna, Jerusha, man or woman), but the cabalistic letters proclaim the holy calling as that of Chiropractic. This brief and pregnant pamphlet is so big with information that at first glance one suspects triplets, or even quadrupeds. Nor is one disappointed. Quadruped it is: One of those so tenderly described by the poet Wordsworth as the patient companion of the itinerant tinker Peter Bell, in those touching lines,

> "The ass, upon the pivot of his skull,
> Turned 'round his long left ear."

After a simple description of the swollen mucous membranes, the watery, acrid discharge and the frequent sneezing we are told "Hay fever, in its most pronounced form generally in its appearance in the late summer, generally the latter part of July or early in August, and with most sufferers terminates about the first part of October."

Then the "cause" is mentioned, always in quotations, for this sarcastic Chiropractic is preparing us for his main theorem. All this that goes before is but the band playing before the grand entry of the scintillating, corruscating, palpitating, gorgeous, unparalled parade of the most Stupenduous Show on Earth, introducing 20 Elephants 20!! together with the renowned Signor (or is it Signorita?) Froth!!!

He knows it is not rag weed nor golden rod, nor the pollen of any plant that "causes" hay fever. He knows, for he says so on page four, that "hay fever" is incurable. "Medically, this inco-ordination is considered incurable, and the only relief the M. D. or the D. O. can promise the sufferer from this disease is to send the patient to a higher altitude or to a dryer climate or to a climate where the supposed "cause," the effluvia from the particular plant, weed or vegetation, that is the particular pet bane of the patient, is not present."

Recognizing that some cannot afford expensive trips to such distant parts as Maine or Wisconsin, he now discloses the real, genuine, undoubted and not-here-to-fore announced cause of hay fever. He says: "Chiropractically, the cause of this inco-ordination is a subluxation at the fourth cervical vertebra, lower cervical or upper dorsal. That is, the most frequent subluxation found in cases of hay fever is the one found at the fourth cervical. The nerves going to the affected portions of the upper air passages of the respiratory tract leave the spinal cord at the fourth intervertebral foramina, leading out on each side of the spinal column. As stated before, medically this inco-ordination is considered practically incurable, and the medical treatment is given merely with a view of removing the irritation or of allaying the most irritating symptoms of the dis-ease. But, from a Chiropractic standpoint, the prognosis is very favorable, and recovery is nearly always the rule. The Chiropractor seeks to so adjust the subluxated vertebrae that all pressure is removed from the spinal nerves, thus permitting the free and uninterrupted flow of the mental impulse current from the brain to the mucous membranes lining the upper air passages of the respiratory tract * * * resulting in normal expression and normal functioning." He states that a single treatment may cure, or that it may require months.

In reviewing the "facts" contained in this little pamphlet, one pauses at the statement relating to "mental impulse currents" flowing through the fourth pair of cervical nerves to the mucous membrane of the nose. If there is a subluxation of the vertebra, pressing upon this set of nerves, why is it that most hay fever sufferers are afflicted from a set date, usually in August, and are relieved after the advent of cold weather? Why is the pressure not exerted continuously? Furthermore, reference to such anatomists as Gray and Quain fails to explain how the fourth pair of cervical nerves can reach or influence the nose or head. Cunningham says, "The first four cervical nerves, by means of the cervical plexus, innervate the neck. The last four cervical nerves together with a large portion of the first thoracic nerve, through the brachial plexus supply the upper limb. The phrenic nerve is derived mainly from the fourth cervical nerve, reinforced by roots from the third and fifth."

This matter of "subluxation" of vertebrae deserves more thought than it has received by the medical profession. One physician of twenty-five years experience, who devoted two of his four collegiate years to special training, three to medical studies and two to his hospital interneship, and who has been in active hospital work since, frankly owns that his fingers cannot feel dislocations of the vertebrae unless they are pronounced. Furthermore, the x-ray has repeatedly failed to show dislocations that were claimed to exist; and more than once pronounced displacements of one vertebra upon another have been shown by the x-ray, when no suggestive symptoms have coexisted. Under such circumstances, what is the miraculous endowment that comes to the chiropractor, but is denied the more experienced physician? How is it that after years of careful training the honest physician acknowledges that he cannot diagnosticate many of the cases that he meets, while the self-styled Chiropractor can without the opportunities for clinical observation and without work in the dissecting room, diagnosticate disease, recognize deep seated deformities, and correct them so as to bring about recovery "nearly always," as J. N. Firth claims? The answer to this question must be left to the Legislature of New Jersey, which has formulated a remarkable definition of Chiropractic; a definition too abstruse and all embracing for ordinary minds, but doubtless clear and lucid as a mountain spring to those Solons who embodied it in the public health laws of New Jersey. And by-the-bye, just notice the grammatical excellence of the first quotation contained in the second paragraph of this review.

If there were no other reasons why "Chiropractic" should be tabooed by popular acclaim, the garbled misinformation contained in the pamphlet which has been fairly, if flippantly, reviewed above should supply reason enough.

H. G. W.

Obituaries

DEPARTMENT UNDER THE CHARGE OF WILLIAM SCHROEDER, M.D.

WILLIAM AUSTIN TOMES, M. D.

BORN in Brooklyn, February 14, 1865, and died in Brooklyn, N. Y., June 28, 1920. He was the son of Robert Tomes, M. D., and educated at Yale University. His medical education was received at the College of Physicians and Surgeons, New York, where he graduated in 1891. He was connected with Sloane Maternity and Lenox Hill Hospital, Manhattan. A member of the Medical Society County of Kings, 1894-1920, and the Associated Physicians of Long Island from 1900-12.

Dr. Tomes is survived by his wife, Gertrude A. Rymo, a son, William A. Tomes, Jr., and two daughters, Mrs. Arthur E. Lethbridge and Mrs. Rex Bowman.

W. S. Sr.

FRANK EDWIN BROWN, M. D.

BORN in Washington, D. C., in 1881 and died in Brooklyn, N. Y., June 23, 1920. He was educated in the public schools of Brooklyn, receiving his degree of M. D. from the College of Physicians and Surgeons, N. Y., in 1903. This was followed as interne at the Methodist Episcopal Hospital. During the World War he was first stationed at the Walter Reid Hospital, D. C., then Camp Upton, L. I. He went abroad as Major and was connected with Base Hospital No. 2. Upon his return he held the position of Surgeon to the Kings County, Kingston Ave. and the M. E. Hospitals. He was a member of the Kings County Medical Society from 1905-20, American Medical Association, Fellow of the American College of Surgeons and the Associated Physicians of Long Island from 1900-1906.

Dr. Brown was the son of Florence C. and James C. Brown. He married Martha Greason, who survives him.

W. S. Sr.

JOHN ALOYSIUS LEE, M. D., F. A. C. S.

BORN in New Britain, Connecticut, in 1892 and died in Brooklyn, N. Y., April 4, 1920. He was educated in the public and high schools and Yale University, receiving the degree of A. B. in

1895 and M. D. in 1897. After serving as interne in St. Mary's Hospital, he began the practice of medicine in this city. During his professional life he was surgeon to St. Mary's Hospital and Kingston Ave. Hospital, a member of the Brooklyn Pathological Society, Brooklyn Surgical Society of which he was president in 1911-12, American Medical Association, Associated Physicians of Long Island, 1901-20 and the Medical Society County of Kings, 1899-1920, of which he was president at the time of his death. This is the second time within a year that the Society was called upon to record the loss by death of its president. Dr. Lee is survived by his widow.

W. S. Sr.

LOUIS NOTT LANEHART, M. D.

AT THE AGE of sixty-one years Dr. Lanehart died at Hempstead, Long Island, on April 25, 1920. He received the degree of M. D. from the Albany Medical College in 1883. During his professional life he was surgeon to the Nassau County Hospital. Babylon, Mercy and East Long Island Hospitals and consulting surgeon to the Williamsburg Hospital; health officer of the Town of Hempstead. A member of the Queens Nassau Medical Society of which he was president in 1903, American Medical Association, New York Academy of Medicine, Associated Physicians of Long Island of which he was president in 1899-1900 and Morton Lodge, F. A. M.

Dr. Lanehart is survived by his widow, Elizabeth Pettit.

W. S. Sr.

ALWIN HUGO SCHWAB, M. D.

BORN in Brooklyn in 1868 where he died on May 15, 1920. He was educated at the Polytechnic Institute, New York College of Pharmacy and the College of Physicians and Surgeons, where he graduated M. D. in 1890. He was a member of the American Medical Association and the Medical Society County of Kings from 1897-1920, Brooklyn Medical Society, 1897-1901.

He is survived by his wife Emilie Schwab, nee Fraehlich, and a son Lieut. Alwin J. Schwab.

W. E. Sr.

FERDINAND SIEGEL, M. D.

BORN in New York City in 1867 and died in Brooklyn, N. Y., May 25, 1920, he was educated in the public schools and graduated M. D. from the University of New York in 1890.

He held the position of physician to the Bedford Dispensary, a member of the Medical Society, County of Kings from 1895 and Aurora Grata Lodge No. 956, F. A. M. He is survived by his wife, Grace W. Siegel, a daughter, Beatrice and a son, Dr. Ferdinand F. Siegel, U. S. A.

W. E. Sr.

Medical Book News

BOOK REVIEW SUPPLEMENT TO THE *LONG ISLAND MEDICAL JOURNAL*

Edited by JAMES M. WINFIELD, M.D.

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DISEASES OF THE INTESTINES AND LOWER ALIMENTARY TRACT.

DISEASES OF THE INTESTINES AND LOWER ALMENTARY TRACT. By Anthony Bassler, M. D. Philadelphia, F. A. Davis Company, 1920. 660 pages. Illustrated. Plates. 8vo. Cloth, $7.00.

This new book is published to match the volume on "Diseases of the Stomach and Upper Alimentary Tract" by the same author. Its text follows out the same careful and detailed description of its subjects as did the earlier work. Dedicated to the general practitioner, the work seems a little too detailed and technical for the average general practitioner to follow, although the excellent chapters on topographical histological anatomy, the physiology and chemistry of intestinal digestion and the roentgenology of intestinal movements would be well worth careful study, and those on suggestions for history taking and physical examination, complete adoption by any careful clinician. The chapter on x-ray diagnosis is one of the best brief descriptions of this subject in medical literature, and would alone be well worth buying the book for.

It is in the description of special diseases that some authorities might differ quite radically with the author's views. The views expressed in the two chapters on intestinal toxemia are not generally accepted today except by Lane and his adherents, and the stress laid upon the supposed efficacy of rectal instillations of cultures of colon bacilli is not justified by the experience of other investigators with this form of therapy. The arrangement of all catarrhal conditions in one chapter and ulcerative in another works out very satisfactorily, although the average clinician would find it hard to make a differential diagnosis in a given case from the descriptions in the book. The subject of appendicitis is completely and very satisfactorily covered, a very poor classification of the different types being presented. Circulatory conditions, anatomical abnormalities and neoplastic diseases are clearly set forth. A whole chapter is devoted to constipation. One on intestinal parasites is particularly good. Diseases of the rectum and anus are clearly described and their conservative treatment well outlined.

On the whole, the book can be recommended as a well-balanced work, and will prove a valuable addition to the already large literature on gastroenterology.

A. F. R. A.

TEXT-BOOK OF DERMATOLOGY.

A TEXT-BOOK OF DERMATOLOGY. By J. Darier. Authorized Translation from the Second French Edition, Edited with notes by S. Pollitzer. Phila. & New York, Lea and Febiger, 1920. 769 pages. Illustrated. 8vo. Cloth, $8.50.

This book of 750 pages is distinctly different from the usual text on this subject in the manner of its presentation. It may be considered better from the standpoint of differential diagnosis of Dermatological conditions since in Part I the author has presented to us a large number of different lesions, naming and briefly but completely describing the various diseases which may come under each head. He has, for instance, described syphilitic roseola under the Erythemas, psoriatiform syphilides with the erythemato-squamous dermatoses, and papular syphilides with the papular dermatoses. This arrangement enables one to think of the various lesions and by elimination arrive at a diagnosis.

In the second part of his book the author places the diseases in their nosological order. Here there is a little more difficulty in closely following the text because one must repeatedly refer to the morphological classification for more complete description. This has been necessary to prevent repetition.

Part III comprises about fifty pages of therapeutic notes which are very interesting and valuable.

The entire text is very well written, the pathological descriptions are complete and not so long as to tire the reader. The book is well illustrated, each illustration being so clearly cut as to convey a definite impression of the lesion even in the absence of colors.

There have been many additions to the text by the translator which are well taken and serve to elucidate the author's meaning, or in other places, as in the chapter on Syphilis, give us a viewpoint which is somewhat different from that of the author, but more in keeping with the methods of this country.

On the whole, the writer considers this book as well deserving a place in our libraries along with those of our own authors.

E. A. G.

THE ART OF ANESTHESIA.

THE ART OF ANAESTHESIA. By Paluel J. Flagg, M. D. Second Edition, Revised. Phila. & London, J. B. Lippincott Company, 1919. 367 pages, 136 Illustrations. 8vo. Cloth, $4.50.

The reader will have to notice that this book does not dip deeply into the scientific aspects of the subject, but consistently adheres to the purpose of the author to demonstrate the art and practice. Naturally, there are some excursions into necessary explanations of the reasons of procedures, and Dr. Flagg shows acquaintance with the determinate problems which confront the anesthetist in the regulation of even the simplest administration; yet on the whole the book is interesting and valuable in that it is largely the exposition of the author's own practice. There can be only one reason for this second edition, and that is that not enough copies were printed of the first one. It comes so closely after the first one that there is much excuse for omitting revision. The only new matter is a chapter on the choice of the anaesthetic and the method of administration which has been added as a résumé of the preceding chapters.

A. F. E.

CARE AND FEEDING OF INFANTS AND CHILDREN.

CARE AND FEEDING OF INFANTS AND CHILDREN. A text-book for trained nurses. By Walter Reeve Ramsey, M. D., including suggestions on Nursing by Margaret B. Lettice. Second Edition Revised. Phila. & London, J. B. Lippincott Co., 1920. 290 pages, Illustrated. 12mo. Cloth, $2.50. (Lippincott's Nursing Manuals).

While Dr. Ramsey's book is primarily intended for the trained nurse, and is classified as a nursing manual, it might with great benefit be followed by the medical student or even the practising physician.

In a small compass a vast store of practical information is contained, and numerous excellent illustrations add greatly to the attractiveness and value of the text.

The writer is to be congratulated upon his production which includes within its scope pre-natal care and the management and feeding of the normal child up to puberty in addition to the nursing and handling of the sick child.

W. H. Donnelly.

FOOD INSPECTION AND ANALYSIS.

FOOD INSPECTION AND ANALYSIS for the Use of Public Analysts, Health Officers, Sanitary Chemists, and Food Economists. By Albert E. Leach, S. B. Revised and Enlarged by Andrew L. Winton, Ph. D. Fourth Editiion. New York, John Wiley & Sons, Inc., 1920, 1090 pages. Illustrated. Plates. 8vo. Cloth, $8.50.

The fact that four editions of this work have been called for in sixteen years is proof that it has met with a generous reception from those to whom it appeals, and that it has real merit. The chief value of the book is as a laboratory guide for the use of food chemists, although it contains much information concerning the composition, preparation and adulteration of foods which should be of interest to the physician or general reader.

The authors start with directions for the construction and equipment of the food laboratory, with a chapter on general analytical methods. Then follow chapters on milk and its products, flesh foods, eggs, cereals, vegetables and nuts, tea, coffee and cocoa, spices, edible fats and oils, sugar and saccharine products, alcoholic beverages, vinegar, colors used in foods, both natural and artificial, food preservatives, flavoring extracts, vegetable and fruit products and canned foods. The general chemical characteristics, methods of manufacture, standards of purity, adulterations and methods of detection are given under each article. About one hundred pages each are devoted to milk, cereals, sugars, oils and fats and alcoholic beverages. The text has been brought up to date and contains few errors, but the binding is poor.

E. H. B.

NEWER METHODS OF BLOOD AND URINE CHEMISTRY.

THE NEWER METHODS OF BLOOD AND URINE CHEMISTRY. By R. B. H. Gradwohl, M. D., and A. J. Blaivas. Second Edition. St. Louis, C. V. Mosby Company, 1920. 418 pages. 75 illustrations, 4 plates. 8vo. Cloth, $5.00.

The second edition of this work presents a number of additions in technic and interpretation, the latter particularly, along the lines of blood chemistry.

The methods of examination described are limited to those that are accepted, simple and practical. The descriptions are detailed and clear, accompanied by numerous illustrations.

The book is divided into three parts. The first is devoted to the technic of blood chemistry; the second deals with the chemical analysis of the urine, and for some unknown and inexplicable reason includes a chapter on the "Staining of Bacteria in the Urine." While the first two sections are of interest only to the laboratory worker, the third part correlates the results of the blood findings to the clinical aspects, and is therefore, of special value to the clinician. In this section sound views are expressed and the present status of the entire subject is skillfully handled.

Max Lederer.

DISEASES OF CHILDREN.

DISEASES OF CHILDREN, presented in two hundred cases historic of actual patients selected to illustrate the diagnosis, prognosis and treatment of the diseases of infancy and childhood. By John Lovett Morse, A. M., M. D. Third Edition. Boston, W. M. Leonard, 1920. 639 pages. Illustrated. 8vo. (Case History Series.)

This is the third edition of Dr. Morse's work and it has given the author an opportunity to bring his text up to date and present material which is the result of experience and discovery since the appearance of the previous edition. The writer, in common with many of his Boston colleagues, is firmly convinced of the outstanding advantages of the case history method of teaching.

This method is considered by many clinicians throughout the country as being surpassed in efficacy only by actual bedside instruction.

On the other hand, there are great numbers of alert students of medical literature, whether general practitioners or specialists, who much prefer the old style of text book and who find the case history method hard reading, and unsatisfactory. It would seem therefore, that the appeal of the volume under consideration will depend largely upon the individual reader's views on the method of presentation of medical reading matter. In the field of infant feeding, one notes that the somewhat complicated and cumbersome percentage method of feeding is still adhered to, in spite of the fact that the whole milk or caloric method is rapidly becoming the one of choice elsewhere than in Boston.

Dr. Morse has had many years of experience both as a clinician and as a teacher and his views command respect; therefore any physician who attempts to keep his pediatric library complete and abreast of the times will welcome this book as a valuable addition thereto.

W. H. Donnelly.

BOOKS RECEIVED.

Books received for review are acknowledged promptly in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases review notices will be promptly published shortly after acknowledgement of receipt has been made in this column.

THE NEWER METHODS OF BLOOD AND URINE CHEMISTRY. By R. B. H. Gradwohl, M. D. and A. J. Blaivas. Second Edition. St. Louis, C. V. Mosby Company, 1920. 418 pages. 75 Illustrations, 4 Plates. 8vo. Cloth, $5.00.

THE DUODENAL TUBE AND ITS POSSIBILITIES. By Max Einhorn, M. D. Phila. and London, W. B. Saunders Company, 1920. 122 pages. 51 illustrations. 8vo. Cloth, $2.50.

DISEASES OF CHILDREN, presented in two hundred case histories of actual patients selected to illustrate the diagnosis, prognosis and treatment of the diseases of infancy and childhood . . . By John Lovett Morse, A. M., M. D. Third Edition. Boston, W. M. Leonard, 1920. 639 pages. Illustrated. 8vo. (Case History Series.)

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles . . . Volume 2, Thirtieth Series, 1920. Phila. and London, J. B. Lippincott Company, 1920. 314 pages. 8vo.

DIAGNOSIS AND TREATMENT OF BRAIN INJURIES WITH AND WITHOUT A FRACTURE OF THE SKULL. By William Sharpe, M. D. Phila. and London, J. B. Lippincott Company, 1920. 757 pages. 232 illustrations. 8vo. Cloth, $8.00.

AN EPITOME OF HYDROTHERAPY FOR PHYSICIANS, ARCHITECTS AND NURSES. By Simon Baruch, M. D., LL. D. Phila. and London, W. B. Saunders Company, 1920. 205 pages. Illustrated. 12mo. Cloth, $2.00.

THE YEASTS.By Alexandre Guilliermond, D. Sc. Translated and thoroughly revised in collaboration with the original author by Fred Wilbur Tanner, M. S., Ph. D. New York, John Wiley and Sons, 1920. 424 pages. Illustrated. 8 vo. Cloth, $6.00.

EATING TO LIVE LONG. By William Henry Porter, M. D. With an Introduction by Edwin F. Bowers, M. D. Chicago, Reilly & Lee Co., 1920. 234 pages. 12mo. Cloth, $1.50.

EXOPHTHALMIC GOITER AND ITS NONSURGICAL TREATMENT. By Israel Bram, M. D. St. Louis, C. V. Mosby Company, 1920. 438 pages. 8vo. Cloth, $5.50.

THE FUNDAMENTALS OF HUMAN ANATOMY INCLUDING ITS BORDERLAND DISTRICTS. FROM THE VIEWPOINT OF A PRACTITIONER. By Marsh Pitzman, A. B., M. D. St. Louis, C. V. Mosby Company, 1920. 356 pages. 101 Illustrations. 8vo. Cloth, $4.00.

HYGIENE, DENTAL AND GENERAL. By Clair Elsmere Turner, Assistant Professor of Biology and Public Health in the Massachusetts Institute of Technology; Assistant Professor of Hygiene in the Tufts College Medical and Dental Schools. St. Louis, C. V. Mosby Co., 1920. 400 pages. Illustrated. 8vo. Cloth, $4.00.

THE DAWN OF MODERN MEDICINE. By Albert H. Buck, B. A., M. D. New Haven, Conn., Yale University Press, 1920. 288 pages. Illustrated. 8vo. Cloth, $7.00.

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THE MECHANICAL TREATMENT OF TUBERCULOSIS.

Foster Murray, M. D.

Brooklyn, New York.

THE mechanical treatment of Pulmonary Tuberculosis is today accomplished chiefly by the employment of artificial pneumothorax. This method conceived as early as in 1821 by James Carson of Liverpool, and in more recent years (1882-95) re-established and greatly perfected in technique by Forlanini of Pavia, Saugman of Denmark (1907), and John B. Murphy of Chicago (1898), consists of the introduction of gas or sterile air into the space existing between the parietal and visceral layers of the pleura at a pressure sufficiently great to produce a compression of the lung tissues and eventually a more or less complete collapse of the entire lung. When complete collapse is achieved the lung is in a state of absolute rest and ceases to function altogether, and as rest is the greatest single aid in the treatment of pulmonary tuberculosis, the value of complete or of nearly complete collapse of a lung may be readily appreciated. For in this state there exist conditions especially favorable to those factors which contribute so largely to the healing of a tuberculous process. The productions of fibrosis and consequent encapsulation of the tubercle bacilli, uniformily occurs in surprisingly short time after the successful establishment of collapse. A previously extending lesion is checked. New tubercles fail to develop. Coincident with this anatomic readjustment there occurs symptomatic improvement. Toxemia, with all its attendant evils, fever, tachycardia, night sweats, loss of appetite, weight and strength, and neurasthenia—is markedly lessened and finally removed. Cough and expectoration may, at the beginning, be slightly increased in amount. Subsequently they are definitely checked.

The attainment of successful results in this form of therapy depends to no little extent upon a proper selection of cases. Authorities differ widely in what they regard as indications. Many continental workers advocate pneumothorax even in the earliest types of apical or hilum lesions, on the theory that a measure so often successful in controlling an extensive lesion should especially succeed in checking a slight one, wherein the patient's better general condition is an added favorable factor. The advantages thus to be gained however are somewhat offset by the complications that may arise during the course of the treatment (occurring in about 40% of the cases), such as the occurrence of effusion and the formation of adhesions which may impede the successful continuance of the procedure, and so result in partial failure. In advanced cases such occurrences need not be so seriously considered, but in early cases must surely be given great weight. English and American workers lean to the more conservative view.

It is now fairly universally agreed that the following types are suitable for induced collapse;

First: Cases of severe, massive hemoptyses where it is definitely known, through physical and radiographic examination, from which lung the hemorrhage arises. Often this is the only measure that will check an otherwise immediately fatal termination. In such a case complete collapse is sought for at once, and large quantities of air (1200-1500 c. c.) are employed. Being an emergency measure one is justified in not too nicely estimating the state of the other lung.

Secondly: Cases of small or moderate hemoptyses recuring in spite of all less radical measures directed toward their control. Here due consideration must be given to the probable capacity of the "good" lung to "carry on" successfully under its newly imposed burden.

Thirdly: Unilateral active ulcerative lesions which, regardless of the prolonged application of a rigid rest-dietetic-hygienic regime progress steadily even, extending and destroying. In such cases the presence of an old and healed lesion in the opposite ("good") lung need not be regarded as a contra-indication, provided such lesion is but moderately extensive to the second or possibly third rib—and especially if it exhibits no sign of activity. It is an observation that a lesion in the functioning lung will even improve both in character and extent following the successful collapse of the more diseased side.

Among the contra-indications, the occurrence of bilateral active processes must be given prominence. A collapse of one lung of course increases the work of the remaining one-may double its labor. As an active lesion demands rest it is a foregone conclusion that any increased burden imposed on such a lung will only tend to further spread of active disease. Other contra-indications are: the simultaneous presence of severe disease of the cardia-vascular-renal system, diabetes, or active intestinal tuberculosis.

The occurrence of extensive cavitation, or of extensive pleurisy with consequent numerous adhesions between the two layers of the pleura on the side in which the employment of pneumothorax may otherwise be indicated, may be regarded more as an adverse condition than as a contra-indication. Nor can the successful induction of collapse always be foretold by either careful chest or radiographic examination. It maybe accomplished in the presence of an apparent extensive pleurisy. Suffice it to say, that in such cases, when every other indication for its adoption exists an attempt at the operation itself will best decide whether or not, successful collapse may be achieved. Several different sites for the injection of the air may be tried and the procedure abandoned only when a reasonable number of applications have failed.

In attempts to keep the lung permanently compressed several different gases have been employed, notably nitrogen and oxygen. It was found that within 12 to 18 hours after introduction into the pleural cavity the composition of these gases became so altered as to be practically the same as that of atmospheric air. Hence sterile atmospheric air is now more universally employed. Unfortunately neither air nor gas remains for any great length of time in the pleural cavity, but gradually become absorbed, permitting the lung to re-expand. This necessitates the re-introduction of the media used at stated intervals, more frequent at the beginning of a course of treatment, less frequent later.

The pneumothorax apparatus consists of two bottles of about two liters capacity each, connected by tubing reaching to their bottoms and stopt with well fitting rubber corks through which the tubing passes. A second piece of tubing connects one bottle with the operating needle and is in turn joined to the manometer by another branch of tubing. The manometer is an upright U shaped piece of glass tubing some 40 cm. in length, one arm of which is joined to the branched tubing leading from the needle; the other one being left open to the air. Water is placed in the manometer until it is leveled at a point one-half way up each arm and that point marked as zero on a scale placed immediately adjacent to the arms. The scale is ruled in cm or ½cms, upwards and downwards from this point for about ten cms each way. The bottle more distant from the needle is nearly filled with some antiseptic solution. By elevating this bottle the fluid will flow from it into the proximal one displacing the air which is in the latter. This air then passes out through the tubing connected with the needle. A stop-cock shuts off the manometer branch of tubing from the needle while air is flowing from the proximal bottle. A stop-cock also regulates the flow of fluid between the two bottles. The air bottle is ruled so as to record volumes in 50 cc. beginning at the bottom. The needle employed is of the trocar and cannula type whose shaft is about 5 cm. in length and of one, and eight-tenths mm gauge, and with an obliquely cut point. A stop cock is placed on the proximal end.

The needle with its contained trocar is firmly yet gently thrust between the ribs through the chest wall until the pleural cavity is reached. Largely by the sense of touch one acquires the knack of fairly and accurately determining the location of the point of the needle. When it is thus "sensed" that the tip has reached the pleural space, the trocar is removed, the needle stop-stock closed and the tubing running to the manometer connected. The stock-cocks on the needle and on the manometer tubing are then opened. If the tip of the needle is truly in the pleural cavity a negative pressure will be recorded by the water in the manometer of any where from 5 to 10 cm and sometimes over. A vacillation of the water from 2 to 6 cm will occur with the respiratory excursions. A failure to achieve a negative pressure of at least 2 cm. and an absence of definite fluctuation in the water maybe regarded as evidence that the point of the needle has either not reached the pleural space or has penetrated the lung tissue beyond. The needle may then be advanced or withdrawn slowly as the situation warrants until the manometric readings indicate that the proper place has been reached. Penetration of the lung, while not the most serious accident, should be carefully guarded against. When satisfied by the manometric readings that the tip is truly engaged within the pleural space the manometer stop-cock is closed, the one between the bottles open thus establishing a flow of air into the chest. As the air flows into the plural cavity its pressure gradually rises. With the passing of 100 ccs or so, it is well to stop the flow for the moment and take a manometric reading to note closely the rising intrapleural pressure, and it is advisable to repeat this with the passing of every 200 ccs of air. When sufficient air has flowed the stop-cocks between the bottles and on the needle are closed, and the needle is quickly withdrawn.

The operation itself is a comparatively simple one. In undertaking it strict attention to asepsis is, of course, essential. Under carefully applied local analgesia no suffering and little inconvenience need be experienced by the patient. The administration of an anodyne one-half hour prior to the operation is usually sufficient to allay any sense of anxiety or nervousness that may arise. Few patients exhibit the least apprehension or dread in submitting themselves to the process of constant re-application. They feel that whatever inconveniences may be attached to the procedure are greatly outweighed by the beneficent results obtained. The site for injection favored by most workers is in the fifth or sixth interspace in the anterior auxilliary line.

Except in cases of severe hemoptysis where large quantities (1200-1500cc) of air may be used to effect speedy complete compression, a course of treament is ordinarily initiated by the employment of small quantities of air. The lung must be gently and slowly reduced so as to give the remaining lung ample time to accommodate itself to its increased duties. Again, aspiration of expressed contents into the healthier lung is rendered less liable to occur the more slowly the diseased lung is compressed. At the first application therefore but 200 to 300 cc. of air are given. Two days later 300 to 500 cc. are added. Then after a two day interval perhaps from 500 to 750 cc. may be tried, provided the manometric readings indicate that the pressure is rising not much above plus-minus zero. The quantity of air employed in all subsequent refills may be best regulated by the manometric pressure readings. To secure good collapse it is rarely necessary to increase the pressure much above zero. It is safest not to exceed plus 6 at any time. Under these conditions the quantity of air used seldom need exceed 800 cc. at any one application. The refills may be spaced anywhere from one to four weeks apart depending on the rapidity of absorption of the air in each individual case.

Clinical recovery long preceeds complete anatomic recovery, and it becomes a nice problem to decide just when the latter has been surely established. Most workers agree that at least two years are needed. Some cases require a much longer period. The duration of the treatment depends to a great degree upon the extent and type of lesion, to the patients general responsive powers, and to his reaction to varying environmental and occupational stimuli. A patient leading a quiet, sedentary life would not, all else being equal, require not as long a period as one engaged in heavier tasks and greater strains. If at the conclusion of two years, a patient is able to do a fair amount of work (one-half day) and yet remain free of all clinical evidence of activity, it may be reasonably assured that, structural cure has been realized. The refills are then stopt entirely or decreasing amounts of air are given and the lung thus permitted either quickly or more slowly to re-expand. Re-expansion will occur in the majority of instances to a greater or less degree and the lung function again as of old.

The more immediate happy effects resulting from successful collapse are many and sometimes startling in the rapidity of their accomplishment. A rather prompt reduction in temperature and pulse rate invariably follows. If other expressions of toxemia be present, such as dyspnaea, night sweats, and neuristhenia, definite and comparatively rapid improvement may reasonably be expected. Weight and strength are regained. Cough and expectoration may at the beginning be moderately increased; later, both become markedly lessened and in a fair percentage of cases finally completely checked. Riviere well puts it that a patient undergoing pneumothorax treatment "achieves in a few weeks or months the same general improvement which under a spontaneous cure could only be accomplished after years."

The general results of pneumothorax therapy, when there is taken into consideration the unfavorable types in which it has been regularly employed, are encouraging. The lives of such patients have, in many instances, been greatly prolonged. A fair percentage of patients have been restored to lives of certain usefulness. A small percentage have become apparently permanently cured. Yet these are all cases which would otherwise most likely have proceeded to fatal termination.

The following taken from Riviere's book sums up in a statistical form results observed from 1¾ to 6 years after collapse was first induced. The cases of one group are compared with those undergoing usual sanatorium treatment in whom the production of pneumothorax was impossible owing to the presence of adhesions. In other respects they were comparable cases.

	Pneumothorax (64)	No pneumothorax (36)
1. Able to work	50%	22.2%
2. Unable to work	28.1%	33.3%
3. Dead from Tuberculosis	18.7%	38.8%
4. Freed from tubercle bacilli	50%	8.6%

The employment of pneumothorax has its limitations. In certain selected cases its implyoment would appear not only to be justified but even demanded. This is being more widely recognized; and the measure is being more generally adopted.

THE ROLLIER SYSTEM AND ITS APPLICATION IN AMERICA

Jaques C. Rushmore, M. D.

Brooklyn, New York.

HELIOTHERAPY is almost as old as time. It is older than modern civilization. The Egyptians used it. Heroditus advocated it. The Romans had elaborate solariums. The Incas of Mexico made use of the sun as a curative measure before the Spanish invasion. Kim—Rudyard Kipling's hero—was placed on the ground in the sun light that he might be fully restored to health by the old women who had nursed him through his severe illness. Animal life appreciate the value of the sun in illness.

In 1902, Malgat, a physician of Nice, read his historic paper on heliotherapy. It remained for Rollier in 1903 to first firmly establish heliotherapy. Having worked for a number of years in the clinic of Prof. Kocher he learned that surgery of tuberculosis left much to be accomplished and he went out from this great surgical clinic to establish a great non-surgical clinic for the tuberculosis. At Leysin, in the Alps, at an altitude of 5000 feet, Rollier taught the world the value of the sun in the treatment of tuberculosis of the trunk and extremities.

How does the sun act as a curative agent?

We know little more than the ancients. That the action is largely chemical is fairly well established. No substance can be exposed to the sun without undergoing a chemical change (Chalons). The rays that are probably the curative rays are the N-rays of Nancy described by Blondlot. As these rays are obliterated somewhat in the low lands by the dirt in the atmosphere, a high altitude accomplishes better results. At an altitude of 5000 feet, bacteria are destroyed by the sun's rays in one-half the time of that required at sea level. The physiological results accomplished by sun rays are: increase in red cells, haemoglobim and eosinoplules, with an increase in body weight. In supperating wounds, first an increase in discharge and leucocytes followed by drying up of the discharge. The formation of sequestra are hastened. Tuberculin reaction is increased. Temperature, pulse and respiration first rise and then drop back to normal. If they remain up the treatment is contra-indicated. The patient gains in weight and there is a general whipping up of the whole economy. Muscle spasm lessens, pain disappears and the general neuratic condition of the patient clears up.

Pigmentation is essential to the success of all heliotherapy and is a fair indication of the progress of the patient. Failure to pigment, loss of weight, increase of temperature and pulse rate and hemorrhage are contra-indication to continuance of the treatment.

Heliotherapy may be practiced anywhere, at a high altitude, at sea level, inland and in the midst of our great cities. Temperature of the air is not an element. In the beginning of the treatment the mid-day sun must be avoided. Exposure must not be made immediately before meals or for an hour or more after meals. Drafts must be avoided at all times and the body surface must not be chilled. When the sun passes under a cloud the body must be covered.

Heliotherapy may be local or general, but as most conditions for which it is used are systemic, general heliotherapy is the treatment of choice. At first for several days the patient is accustomed to the outside air, then the actual exposure of the body begins. The head and eyes are always protected from drafts, the feet are exposed for ten minutes three or four times a day. The second day the feet are exposed for twenty minutes and the legs up to the knees for ten minutes. The third day the feet are exposed for thirty minutes, legs, up to the knees for twenty minutes and the thigh to the middle portion, for ten minutes. Having completely exposed the ventral surface of the body the patient is turned and the dorsal surface gradually exposed in the same way. In about thirty days the whole body will become well pigmented and complete exposure may be made. The patient may then be exposed for from three to six or seven hours a day. Cloudy or stormy weather interrupting the treatment before complete pigmentation, the process must be stopped and gradual exposure again be taken up. Dermatitis and sun burns are to be avoided. Deep pigmentation is the desired result. Temperature, pulse, respiration and weight are to be carefully watched. Brunettes pigment much better than blonds and certain blond types cannot take the treatment as they will not pigment and become extremely nervous.

Measures for immobilization and traction are not to be discarded during the treatment. Split or bivalve splints are best, as the involved part may be exposed. Sinuses and wounds are best dressed over fine wire mesh so that the gauze does not come in contact with the wound, dirt from the air kept out, and the wound may be exposed.

The value of heliotherapy in pulmonary tuberculosis is a disputed point. In tuberculosis of bones and joints, adenitis and fascial tuberculosis, it is the ideal treatment. The results in peritoneal tuberculosis are reported as remarkable. Surgery, the actual use of the knife is becoming more and more discredited. Calmot Dictum is "Le bistouri, c'est I'ennemi."

Aspiration and fixation are the ideals. Tuberculosis cannot be eradicated by the knife. Tuberculosis of bones and joints is not a local condition, but a systemic or general condition of which the local condition is an expression, and cure is depended on the condition of the entire body.

Local and general heliotherapy are of great value in chronic pyogenic osteomyilitis and the literature is full of favorable reports. In arthrites deformans in conjunction with a hot dry climate, it is often our last resort and most valuable.

We have in the rays of the sun under proper therapeutic direction, one of the greatest builders of haemoglobim and red cells known, and how sadly we neglect it. Considering the immense value of heliotherapy in the treatment of bone tuberculosis comparatively little use of it is made in this country. In New York State, at Perrysburg, near Buffalo, there has been established the most complete plant that I know of in this country. The institution has accommodation for 128 patients and there is always a long waiting list. Dr. Pryor's reports of this work should be familiar to all.

Dr. William C. Campbell of Memphis, Tennessee, reports the result of five years work, covering 127 cases. This work is done inland at sea level.

Dr. William C. Palmer, of California, is enthusiastic in his results of heliotherapy as a preventative in the care of children of tubercular parents.

So, scattered through this great country, are a few enthusiasts using this wonderful method, but the heliotherapy of Rollier has not received the recognition in this country that it should and this great adjunct in the treatment of disease has been neglected.

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RADIUM TREATMENT OF TUBERCULOUS ADENITIS.

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New York City.

IN giving a brief outline of our results in the treatment with radium of tuberculous glands of the neck during the past five years, I wish to preface such remarks with the statement that radium is not to be advocated, as displacing any department of surgical effort, but we will try to give fitting argument to encourage the adoption of radium more seriously wherever indicated. Many of us have viewed excellent results in tubercular conditions from the effects of Roentgen rays (analgous to radium gamma ray) for nearly fifteen years; findings which seem to equal the best returns of the surgeons skill, yet seemingly the knife remains the weapon of choice. I believe a large majority of tuberculosis specialists are today opposed to the use of surgical intereference to the extent of removal of tuberculous lymphatics, owing to frequent sinus formation, objectionable scars, as well as the lowered resistance accompanying anaesthesia. We might interject right here our opinion, that thoroughly good surgery, is rarely objectionable, but it has been our misfortune to see hundreds of neck gland cases that have been cut, drained, partially cleaned up in a manner that should not be classed as of the type of present day surgery. The operation is comparatively easy, quickly removes the infected area and therefore with the large percentage of good results may continue to have its friends. With improved control of dosage the X-Ray therapeutist is controlling and curing tuberculous glands in high percentage. Radium offers us many advantages not to be secured in the Roentgen ray, without any of its dangers. In treating a series of 32 cases, during a period of four years, with a careful check up of their history to date, we find a control and apparent cure in 27—three lost sight of, but reported well and two only that showed recurrence. One died two years after treatment of pulmonary tuberculosis.

It is my conclusion that every case of tuberculous adenitis should receive non-surgical methods of treatment, such as radium, X-rays, helio-therapy, tuberculin and possibly other agents before finally advising surgery.

In our biological study of the influence of the deep rays of radium for malignant conditions, we find that aside from a direct action on the neuclei of the cancer cell, there develops an intense fibrosis. In areas of lymphatic structures lymph tissue is replaced by fibrous tissue. Lymphocytes are increased in number in the blood stream. There is always a considerable increase in the red cell count and an unmistakable tonic effect is exhibited. It is findings such as these that stimulated us to look deeper into the therapeutic worth of radium in tuberculous glands and much encouragement has followed.

We must remember that even in its simplest application surgery may occasionally present a fatality, but with radium we can for such conditions, report no untoward effects. Dowd's (1) classification of his investigations with surgery are most helpful.

In 1915 Krecke (2) presented excellent results from the gamma ray of the X-Ray in 36 cases and found no radical extirpation of glands necessary. Holding (3) had reviewed more than 2000 cases of X-Ray applications and seems intent on urging non-surgical treatments as of first choice. Aikins of Toronto (4) has reported high percentage of results following his radium applications and gives most convincing reasons to favor its adoption. While considerable work in tuberculous glands is being done at all radium clinics of today, reports are slow in being presented for the reason that the more important investigations of malignancy claim preference.

Following a massive application of radium over an area of infected glands, a general average dosage being 200 milligrams for 24 to 30 hours, the improvement is marked—often striking in promptness of reduction. It is quite common to witness a ½ or greater reduction within three weeks during the full period of radium activity. As a rule we do not find a complete disappearance of the masses—more generally do they become inactive, reducing to small dense nodules varying in size from a pea to a small lima bean. A few days after a radiation we sometimes note a puffing up of the gland, a temporary activity that frequently causes anxiety unless the patient be warned. Caseous glands, or those near breaking down frequently point and break; they should be evacuated. Sinus formations are successfully treated by advancing a tube of radium, or a radium needly, well up into the top of the sinus.

Good surgery should remove every gland in the entire neck and possibly the tonsil as well. Sometimes in the case of advanced stage where the chain of nodules advance down both sides of the sternomastoid muscle make the work difficult. Radium seeks out such areas, destroys the infection without injury to the surrounding normal tissues. The clinical picture of the fully restored patient is to me much happier, than a similar case presented with the best results of the surgeons art. Furthermore radium applications in no way interferes with the surgeon, should complications demand his attention, for the tissues are better prepared with proper pre-operative radiation.

We must not forget that the infection of early childhood frequently clears up spontaneously, or responds to treatment easily, whereas it is the adult case, suffering renewed activity after a quiescent period, that forms the desperate case to treat. It is therefore my purpose to report several of the adult cases of severe type.

A standard average radium application for this class of treatment, subject to variation of mass areas, would be roughly figured as 250 to 300 milligrams of radium element—each tube (as a rule 25 or 50 mg.) screened with 1 m. m. metal—4 m. m. gum rubber and a distance screen of approximately 1½ c. m. of felt. Period of application to be 18 to 24 hours—with the possibility of one or two subsequent treatments at intervals of three weeks. I have not attempted treatment in any cases of tuberculous neck glands in advanced pulmonary tuberculosis cases. There seems to be no contraindications governing radium therapy in tuberculous adenitis other than the necessity of having a full and sufficient amount of radium.

Case Reports—

1. Mr. R. S. M. Age 37—Clerk—412-1916

Referred in September as a bad recurrent gland case with suspected pulmonary infection. Normal weight 150 with present weight 128. Blood count showed red cells at 4,200,000 and whites at 7,600. Poor condition and of a neurasthenic type. On right side of neck above and below the muscle there were seven large glands of sufficient size to throw the head sharply to the left. Glands had been surgically removed by the block operation in December 1915 and in June 1916. There was an open sinus discharging actively. Patient had been forced to give up work. No glands on left side. Our first treatment was made on the sinus area—Two radium tubes (60 mg.) placed tandem, were forced nearly two inches to head of sinus—screen 1 m. m. alloy metal, in rubber tube 1 m. m. thick —three hours application. Active discharge resulted for two weeks followed by permanent healing at end of fourth week. In reducing the entire chain of glands it was necessary to administer five treatments of standard dosage, averaging 200 milligrams for 20 hours each. Exact milligram hour dosage totaled 8,200. In February 1918 we found two small glands developing above the clavicle at outer third. Two more heavy radiations served to control and permanently destroy. No recurrence to date. General health greatly improved; weight 160 pounds.

2. Mr. John M. C. Age 26—Machinist—218-1916

Referred for diagnosis and treatment April 1916. Had been classed as Lympho Sarcoma owing to rapid development of glands on left side of neck three months previously. History showed that he had "glandular trouble" for years as a child, but forgot them after the age of 14. Chain of glands along both sides of the sternomastoid forming a mass as thick as the hand. One nodule size of half a walnut on right side at angle of jaw. General health good, except constant tendency to severe laryngitis and tonsillitis.

Treatment—Radium 230 m. g. screen 1½ m. m. of metal and ¾ inch distance of padding for period of 16 hours—April 8—Glands very active ten days later with evidence of breaking down—April 29 —Second radiation of heavier type—May 10—Patient reported glands much reduced in size and some along supra-clavicular region having disappeared—Slight evidence of a burn presented—June 10—Showed all absence of abnormal glands, other than the small gland on right side of neck, which had received no treatment. It had reduced however one half in size. On June 18 we applied 101 milligrams for 2 hours directly over gland, with a screen of 1 m. m. metal and 6 m. m. soft rubber. July 1 gland could not be found. Patient had gained 7 lbs. in weight during three months of treatment and observation. Up to November 1919 there had been no signs of recurrence and patient reported two winters free from throat attacks.

3. Miss Ruth M. Age 24—Teacher—628

History of tuberculous glands dated back for a period of six years. Reported to the Institute for treatment after having been refused further surgical help. Three operations had failed to clear up the condition. Great masses of glands were prominent on both sides of the neck obliterating the Sternomastoid muscle. On the left there were three bad sinuses and two very active on the right. Patient in poor health and greatly discouraged. Although the case was classed as inoperable the results following three comparatively light radium treatments were surprisingly good. January 13, 1919, 180 milligrams were applied for 12 hours with standard screen. February 6, followed a 16 hour treatment with 240 milligrams. The reduction in the size of the glands by March 12, the date set for the third treatment, was so marked that the treatment was not given. A month later it was deemed necessary to give a short treatment of eight hours of 160 milligrams. In this case the sinus trouble cleared up entirely five weeks after the first treatment. There has been no signs of recurrence.

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THE CARE OF THE PATIENT WITH MODERATELY ADVANCED PULMONARY TUBERCULOSIS.

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Brooklyn, New York.

IN a private house with wide enclosing porches on all sides, detached from its neighbors, in a climate where the air is sweet and free from the chemical, bacterial and mechanical irritants of crowded social and industrial centres yet not far removed from the usual haunts of men; in this house occupied with him by those lovingly interested in his welfare, free from domestic and financial anxieties, nursed by those capable from the standpoint of his needs and the protective needs of others, and all under the guidance and authority of a doctor of medicine skilled, enthusiastic and persevering, are found the ideal conditions and circumstances for the patient with moderately advanced pulmonary tuberculosis. Pulmonary Tuberculosis, however, is a disease affecting especially those not overburdened with this world's goods. A disease from its chronicity disabling for long periods of time, terminating the income of the patient and often impoverishing those dependent on him, makes these conditions, like most ideals, far from practicable.

Is there, then, no outlook of hope? Can these requirements be sufficiently modified to meet the circumstances and conditions as we find them and still permit results beneficial to the patient and encouraging to his physician? Fortunately they can. Too long has the public been led to believe that there is no remedy save the combination of climate and food, to the discouragement and detriment of the patient and the suppression of special continued efforts on the part of the practising physician. I will not here go deeply into statistics, but I claim as the common knowledge of us all that pulmonary tuberculosis is diminishing markedly infrequency and that its relative death rate is declining. In some late reports* I find that the death rate for twenty-five consecutive years in Brooklyn of pulmonary tuberculosis reduced almost steadily from 3.053% to 1.754%. The total number of these cases registered in the Board of Health for that Borough on December 31, 1915 (before the great war entered a new factor in the statistics) was 9.801; on December 31, 1919, it was 7.212, and at the present date (Oct. 15) about 6000. The number of deaths from that disease in 1915 was 2742, while four years later, (1919) the number of deaths was 2252—nearly 500 less—although the population in 1919 was greater than in 1915 by 305,000.

I will not digress from the topic assigned me to discuss the relative importance of the many factors entering into this result, save to state that one of them is the case of the patient with advanced disease, that it is this class of patients which is the principal cause of infections and reinfections, and to emphasize briefly that much may be done for them. In one hospital in the suburban section of Greater New York which treats only tuberculous patients and nearly all of them in the moderately and far advanced stages of the disease, there has been admitted for several years on average of 1800 patients yearly. How advanced they are may be deduced from the fact that nearly 100 yearly die within 10 days after admission. At the time of discharge 35 % are recorded as improved, judged by the findings of temperature, weight and symptoms.

A hospital for tuberculous patients may still be so placed within or near our cities as will ensure comparative freedom from the contamination of our densely populated centres and yet not so far removed that the frequent visits of relatives and friends become a hardship. This social intercourse is a most important element in maintaining the morale of these patients. In such a hospital, structurally in accordance with the highest health requirements, equipped with all appliances surgical, medical and mechanical that are necessary, with a nursing corps adequate for its needs, a patient may select his accommodations as his financial ability may permit. I have been informed by several patients who during the past year have sought the cure of climate and food in several parts of these nearby States well reputed for that purpose, that modest lodging and board without nursing or medical attention could rarely be secured under $45. per week. In a private hospital as I describe it, ward beds, semi-private and private rooms with nursing, medication and usually medical services, terms ranged from nothing to $30 per week.

All patients with moderately advanced disease do not require hospital care. Even those without personal financial endowment, in frequent long periods, may after instruction safely care for themselves at home and in suitable light occupations, but during the periods of exacerbations, high fever or many complications, or when the necessary discipline of the sick room can no longer be maintained, the hospital affords a large measure of relief and benefit. Weakened discipline in advanced sick patients is most serious from many view points. Whether from the profuseness of the expectoration, the abundance of tubercle baccilli present, their association with other organisms or all these things together, this is the most fruitful period for infection of others. We realize that infection occurs most frequently in childhood, and in the family life avoidance of close proximity of an advanced or seriously ill patient with the younger members of the household is extremely difficult.

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*These figures were kindly furnished by the Borough Chief and the Registrar of Vital Statistics of our Board of Health Drs. H. T. Peck and S. J. Bryne respectively.

Knowing the relatively little value to be derived from climate in itself, except perhaps in the earliest stage of disease, and the attendant burden imposed by its quest, it is surprising and saddening to still find patients advanced in disease, even bed ridden, ordered to seek a promised land far far away, at an extreme of cold or heat. The number who return to our hospital to spend their remaining hours, who have squandered the strength of the preceding few weeks or months in country homes, or travelling long distances, while suffering with pyrexia, mal nutrition and worst of all nostolgia, is very great. Perhaps the most beneficial element in change of climate for tuberculous patients in any stage of the disease is solely mental—which might follow any change of surroundings—and this element as frequently exerts its beneficial effect in an advanced case when changed from their usual surroundings to those of a proper hospital.

As on climate, our views on food and exercise have undergone modification in the years. Less importance on the quantity of milk, eggs and fat ingested, with more importance placed on their digestion. Less value on the mere gain in weight and more on the way that weight has been gained and retained in its relation to rest and exercise. Most stress on rest and exercise, properly graded to individual conditions and body temperature and the great need of the physician's supervision of these measures so powerful for harm or good.

Whether a patient be cared for in the hospital or his home I wish to record my earnest opposition to that therapeutic nihilism which flaunts the statement that drugs are useless in the treatment of pulmonary tuberculosis. From the fact that we have no specific one should infer we have no remedies—no medicines—of service to the person sick, applies no more correctly nor truthfully to tuberculosis than to most of our other ailments. If one but apply the knowledge of physiological and therapeutic action of drugs we know to the symptomatic conditions which exist or arise, the comforting results will be agreeably surprising, the physician will continue his encouraging interest in the patient and save him from the ill-judged use of the oils, the malts, the syrups and the nostrums. Even "cough mixtures," usually so abused, may be wisely used if the physician himself be the author of each one ordered, if each ingredient be in response to some indication, and never ready—made, hand-picked mixtures. Expectorants may still be sedative or stimulating or deodorant or antispasmodic in their actions.

Appetite may be increased, food more completely digested, all the function of the alimentary tract from mouth to rectum much improved by the simple bitters, the mineral acids, the intestinal sedatives, astringents or laxatives—even by suppositories or enemata. The nervous system too—so important in these patients—will show response to the properly used remedy. Of those measures directed specifically to the disease Tuberculin always come to mind. In this class of patients with disease active I find from its use no benefit whatever.

There are many drugs meeting several indications which may be properly used; Ichthyol with its action on the stomach and intestine, on the secretions of the respiratory tract (Ichthyo-sulphate of Ammonium) and saving weight by perhaps retarding retro grade metamorphosis is an example. Creasote too, with its group (Creosotal, Guiacol, Thiocol), Arsenic and Digitalis the late Dr. Jacobis' near-specific and others you all know as well as I.

Artificial Pneumothorax which I should class among the surgical measures, in some attacks of hemoptysis and in selected cases of lung involvement has proven a valuable addition to our resources.

The search for and early recognition of complication, particularly in the larynx is one of the important duties of the physician attending. The studies of Dworetzky in the care and treatment of the distressing throat complication and the many measures in our hands from sprays and direct applications to surgical intervention have increased our ways to aid.

In this time alloted to me, I wish to repeat, Gentlemen, that the number of people in our communities suffering from Pulmonary tuberculosis is being steadily reduced; that a hospital for patients moderately advanced or far advanced in disease has a field of usefulness apart from that of the sanitarium; that it fills a very large place in the treatment and prevention of this disease, and that we possess many drugs and therapeutic measures which presistently and intelligently used are of great help to the patient.

CONTROLLING TUBERCULOSIS.

Philip P. Jacobs, Ph. D.

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IN CONSIDERING the control of tuberculosis by means of community machinery or community activity, it is necessary to recall three important phases or factors involved in the very nature of the disease. First of all, there is the factor of infection in particular relation to its universality and to its manifestations in early childhood. Secondly, there is the factor of disease, or the translation of infection, the lighting up, in other words, of a latent focus into an active disease process. Thirdly, there is the factor of resistance, vague and indefinite as its connotation may be.

In relationship to these fundamental factors, the control of tuberculosis resolves itself into the provision of community machinery or community activity that will aim in turn at each of the three and all of them together. For purposes of convenience, the community machinery or community activities needed in any normal city or town may be grouped under four main headings. To be sure, there will be a considerable amount of overlapping, or, in other words, some activities may be essential to more than one of the four groups. In general, however, these four groups may be headed as follows: Machinery needed to prevent infection; machinery needed for the discovery of cases; machinery needed for cure and treatment; and machinery needed for building resistance.

Taking up the first of these heads, namely, machinery needed to prevent infection, what are some of the principal activities that must be provided for the control of tuberculosis?

There is first of all the official health machinery, the board of health, the health officer and all that goes with these officials in the way of legal status and financial support. Without a strong official health foundation any community effort toward control of disease will fail.

Second, there is education and educational machinery that must be provided both through official and through non-official sources. Such education must be directed primarily toward the prevention of the spread of infection.

Third, there are nurses who visit in the homes and seek to instruct the carrier of active tuberculous sputum how to dispose of his infectious waste without danger to other members of the family.

Fourth, there are the hospitals for advance cases particularly, to which the dying consumptive in that most dangerous period, from the point of view of infection, must be segregated both for his own comfort and for the benefit of his family, especially the young children.

A second group of agencies or activities deal with the discovery of cases. In tuberculosis as in any other infectious disease, it is axiomatic that before the disease can be controlled the living cases must be known. A variety of means have been devised in the last few years for the discovery of tuberculosis cases. A few of these may be mentioned here.

The clinic or dispensary, either of the permanent and stationary kind, or of the movable variety, has proven to be one of the most valuable means for discovering cases of tuberculosis. Probably the foremost function of any dispensary should be diagnosis.

Secondly, the nurse has also been found invaluable in the discovery of cases. Many a community in which the doctors and health officials have stoutly maintained that there was "no tuberculosis" has been found by the diligent nurse to have a very serious problem in this disease. Whatever else the functions of the nurse may be, she is a discoverer of cases of tuberculosis.

The medical consultant is a comparatively new agency in the discovery of cases, developed to a high degree at Framingham, Mass., and now being used in various parts of the country. This expert in chest diagnosis offers his services free to physicans in the community for consultation of any doubtful cases. He is thus performing a double function, as he not only discovers new cases but he raises the standard of knowledge in the diagnosis of tuberculosis among the rank and file of general practitioners.

A fourth method of discovering cases may be designated as the medical examination drive on the sickness survey. It is a concerted community effort to make people realize the necessity for being examined and has been the means in many communities of unearthing a number of hitherto unknown cases of tuberculosis.

Of course, the physicians of a community are of vital significance in the discovering of cases and when properly stimulated by the public health officials with the right kind of law for reporting of disease, physicians become a valuable adjunct of the tuberculosis campaign in this particular connection.

Finally, we must again point out the necessity for educational machinery in this particular direction. Education will stimulate the individual, who has or suspects he has tuberculosis, to be examined. It will also compel the negligent physician to report his cases.

A third group of agencies or machinery needed in the community control of tuberculosis would come under the heading of cure and treatment. It would be difficult to itemize individually all of the agencies that might be included under this head, but a few groups of them are here listed:

First of all, we would mention the sanatorium for the treatment of incipient cases. These institutions both public and private are scattered throughout the country, some of them in conjunction with hospitals for advance cases, some entirely self-supporting. The important factor, however, here to note is that as a distinct part of machinery for community control of disease some sort of sanatorium provision for the curable cases must be made.

Secondly, the nurse and the dispensary in conjunction form an important part in community machinery for cure and treatment. The present lack of institutional facilities compels home treatment in the vast majority of cases. To this group, particularly to those who cannot afford private physicians, the nurse and clinic fill an important need.

Thirdly, there are the physicians who for the same reason just enumerated must treat large numbers of patients in their homes.

Fourth, the relief agencies are an important factor in the cure and treatment of tuberculosis, as they are also in that machinery dealing with the prevention of infection. The care of those at home while the bread-winner or other member of the family is taking the cure is vital in any community program.

Fifth, the vocational workshop is a relatively new machine coming into vogue largely within the last few years. It is designed to solve that difficult problem of the after-care of sanatorium patients and where it is being worked out scientifically is providing a reasonable solution. The results of the workshop conducted by the New York Committee on the Care of the Jewish Tuberculous have been remarkable in many respects and are being duplicated by a similar workshop in Long Island City under the auspices of the New York Tuberculosis Association.

Again, the colony, the industrial and agricultural, for the after-care and continued residence of the discharged consumptive is a valuable part of community machinery. The colony has not been developed in this country as it should but efforts are being directed along that line at the present time. Without question it holds a place of importance in a well-rounded community program.

The last group of agencies or factors that we would mention are those that deal with building resistance. The agencies in this group are for the most part not so well defined.

We should probably include here educational machinery, particularly that machinery that deals with education in personal hygiene. People must be taught how to live both as regards their eating, sleeping, resting, exercise, playing, working, living and other relationships. Right living means strong resistance to disease.

The open-air school and fresh-air class, both for subnormal and normal children, are probably one of the most valuable specific agencies in the building of resistance. Its worth is today being tested in thousands of classrooms.

The preventorium is an agency that is relatively new and is designed specifically to take care of those children who have been exposed to tuberculosis and to build resistance against what may already be presumed to be a more or less massive infection. The fresh-air camp, summer school and a variety of other agencies would qualify under this head.

Recreational facilities of any community undoubtedly play an important part in the building of resistance. It is sufficient in this connection to mention them in a general way without going into detail.

So also one might speak of living and working conditions. The fact that breakdown with tuberculosis is brought about by a weakening of the tissues that surround the latent tubercle, leads inevitably to the conclusion that anything that tends to provide better food, better homes, better clothing, better working and better living conditions in general, builds stronger and stronger the wall against tuberculosis.

It is a comparatively easy matter to lay down a program of this character for community control of tuberculosis. It is a painstaking and slow process to bring a community to realize the necessity for the provision of the machinery here outlined. The National Tuberculosis Association and its 1100 affiliated state and local agencies are endeavoring to do just that thing. Their task is not the cure, nor treatment, nor relief of individual consumptives so much as it is to arouse community consciousness to a point where proper health provison, dispensaries, hospitals, nurses and other machinery will be provided.

Everyone knows upon a moment's reflection that they will not provide themselves. It takes organization to get them. This great organization movement is being supported entirely from the sale of Tuberculosis Christmas Seals. The Seals are on sale from December 1 to 11 and all of the money derived from the sale goes to the support of the national, state and local tuberculosis associations.

RESUMÈ OF TUBERCULOSIS PROBLEMS IN STATE HOSPITAL PRACTICE.

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Central Islip, N. Y.

THE general problems of tuberculosis and prevention in State Hospital practice are, I dare say, more difficult to handle than in private life, namely, from the standpoint of early recognition and the patient's co-operation in handling the treatment.

The mentally normal are allowed their freedom and have the right to regulate their amount of fresh air and sunlight, two essentials for good health. In the State Hospital, while every effort is made toward hygienic life, etc., there is no concealing the fact that our wards are over-crowded by lack of sufficient buildings and during, as well as since, the war, shortage of nursing force has greatly handicapped our efforts. In meeting the conditions, it is well to make clear the situation by stating that the grouping is so planned that separate day and night quarters are provided, thus giving twelve hours of complete airing to each, and as for the nursing, it is only with credit to the force in general to say that their work has shown results, for though our patients have to be served their meals and in many instances spoonfed by reason of delusions about eating, which is no small matter in fighting prevention by keeping our susceptible patients from a receptive state for attack by the ever present tubercle bacilli, we have had no relative increase of development with the hospital. In fact there has been a decrease among the male population, though an increase of admited active tubercular cases.

Early recognition is the all important matter both from the patient's welfare and the welfare of those about them that we may segregate and start proper care and treatment, thus lessening the chances of further spreading the disease and give the patient a better outlook for recovery.

With the normal, the very early symptoms such as languor, cought, night sweats, etc., arouse the patients' alarm and tend to bring them under treatment before actual failure of health occurs, which is all essential for good results. With the mental cases, it is unusual to obtain any help of a subjective nature and it is a well recognized fact that coughing among the tubercular insane is certainly lessened and in many conspicuously absent. Then, also, in our stethescopic work, co-operation is poor, making early diagnosis difficult.

At Central Islip, in treating 492 advanced cases during 5 years, we have had few other than pulmonary involvement, namely as follows: bone—3, peritoneum—2, empyemas—2, testicular—1, visible glandular—3, military—2, laryngitis with aphonia—2.

It has been surprising how few pulmonary hemorrhages have occurred in this number and period. With a death toll of 315, only five suffered from hemorrhage, a number seemingly so low that I am wondering if the state of lowered mental tension in which our patients are living does not really have something to do in lessening the occurrence of this distressing condition; though it may be that our low altitude plays a part in this matter. I am inclined to the opinion that certain locations are beneficial to some, but no special clime is specific, and that it is not so much the quality as the quantity of fresh air and sunlight we should seek. By this I mean that Long Island, though low, has many climatic advantages, especially in that we are not subject to extreme or sudden changes of temperature and approximately as much day light with its beneficial sunlight as elsewhere and more than many other places.

Our treatment in general is quite similar to the usual sanitarium practice. We have a regularly designed camp of one hundred bed capacity, fifty male and fifty female; with kitchen in the center and dining room adjoining on either side. The building is surrounded with sun porches, where during the day the bed cases as well as the semi-ambulatory ones spend their time, while those suitable are allowed outside in the immediate vicinity of the building.

Rest, fresh air, sunlight and forced feeding are at once started. No patient is allowed up and about who shows an afternoon temperature of 100 or over. For routine medical therapy, we have used the Syrup of Hypophosphites U. S. P. with Creosote M-1 to the dram, and formerly, before the effective 18th Amendment, liberal but judicious use of whiskey and sherry, not especially for stimulant purposes, but for its tonic and fuel value. Complications and varying conditions, etc., are duly and systematically treated as arising and indicated.

I started to tabulate the incidence of tuberculosis according to psychosis, but found it so strikingly high in one class that I concluded only to state that it may occur in any form of insanity or otherwise, other than Dementia Praecox.

The following statistics shows quite plainly the seriousness of the problem. In conclusion I wish to say that the State, through its officials and Hospital Development Commission, appointed by the Governor, has been alert to the situation, having formulated a working plan whereby in due time, through progressive construction, which they have even through the handicap of war conditions already under way to amply relieve the situation both from stand-point of prevention and treatment.

Statistical Table Covering Incidence of Tuberculosis in Hospital Population, etc.

	Hospt. Census		Patients adm.		Patients adm. with ad- vanced T. B.		Patients T. B. found after adm.	
Year	Male	Female	Male	Female	Male	Female	Male	Female
1916	2674	2314	888	899	3	13	28	29
1917	2856	2332	945	857	7	4	18	27
1918	2883	2407	807	844	6	8	39	36
1919	2916	2525	846	833	6	10	28	35
1920	3017	2560	910	740	13	15	21	43

	Rel. percent to total T. B. no. adm.		Rel. percent T. B. after adm. in Hospt. pop.		Paroles or Arrested cases	Deaths
Year	Male	Female	Male	Female		
1916	.003	.014	.01	.008	27	57
1917	.007	.004	.006	.01	20	45
1918	.007	.009	.01	.01	14	66
1919	.007	.01	.03	.01	25	71
1920	.01	.02	.006	.01	14	76

ABSTRACT OF PAPER ENTITLED "SOME UNDERLYING PRINCIPLES OF INTESTINAL AND GASTRIC SURGERY."

By J. Shelton Horsley, M. D., Richmond, Va.

(Read before Kings County Medical Society, Brooklyn, New York, Oct. 19, 1920.)

EMPHASIS was placed upon the importance of following the laws of physiology and of benefiting by the results of observations of pathology in the living when performing a surgical operation. Instances of procedures that were largely mechanical, without regard to biologic processes, were cited, such as the Lane plates in fractures of bones and reversal of the circulation in blood vessels.

Attention was called to the importance of preserving peristalsis in operations for obstruction of the bowel. When the whole length of the intestine is threaded on a rigid tube in order to empty the contents of the bowel, much trauma is done and peristalsis may be completely abolished as a result of this procedure.

An enterostomy was recommended, which embodies the principle of Coffey and consists in the insertion of a medium sized catheter in a loop of bowel near the obstruction.

The unphysiologic aspects of lateral anastomosis were mentioned. The chief objection to the lateral anastomosis is leakage at the mesenteric border. A method of intestinal suturing which closes this border before the bowel is opened and in which care is taken to clean out the ends of the bowel before suturing, was described. This method consists of a single layer of sutures applied first from the lumen along its mesenteric portion and then converted into an external right angle suture, with an occasional back stitch to prevent drawing the sutures too tight.

The desirability of forming a valve after resection of the cecum was discussed, and an operation for reuniting the bowel after resection of the cecum and ascending colon was described. In this technic, valve formation and enterostomy are done. Enterostomy is recommended after all resections of the large bowel on the right side to prevent gas formation, and to give physiologic rest to the tissues during healing.

The treatment of ulcers of the stomach and duodenum by gastro-enterostomy was discussed, and emphasis was laid upon the fact that jejunal ulcer which follows gastro-enterostomy in a definite percentage of cases is caused by gastro-enterostomy. The unsatisfactory permanent results of gastro-enterostomy were illustrated by quotations from a paper by Frank Smithies, late gastro-enterologist to the Mayo Clinic, in which he reports 273 cases of gastro-enterostomy taken mostly indiscriminately from a larger series. Of this 273 cases there was only 20.9% of complaint free patients.

The dumping of the acid gastric juice into the jejunum which is normally prepared for only alkaline contents causes trouble in most instances of gastro-enterostomy, but the symptoms usually appear late, often months or years after the operation. Roentgenograms and flouoroscopic examinations of gastro-enterstomy cases months or years after the operation show the unnatural progress of the stomach contents.

A pyloroplasty was described which had been previously reported in the Journal of the American Medical Association, August 23, 1919. A list of cases done since this paper appeared, together with some modifications of the technic, was given.

MINUTES OF THE SIXTY-SEVENTH REGULAR MEETING OF THE ASSOCIATED PHYSICIANS OF LONG ISLAND

THE Sixty-seventh Regular Meeting of the Associated Physicians of Long Island was held at the Garden City Hotel, Garden City, N. Y., Saturday, October 23rd, 1920, and was called to order by the president, Doctor Henry Goodwin Webster at three-thirty P. M., there being eighty-seven guests and members present. As the minutes of the June, 1920, meeting had been published in the Long Island Medical Journal the reading was dispensed with by general consent.

The membership committee presented the following names for final action by the Society, all these names having been printed upon the notices for this meeting:

Proposed by Dr. Herbert Coleman Allen
- Dr. Meyer Harold Blatt, 72 McKibbon, Street, Brooklyn, N. Y.
  University and Bellevue, New York, N. Y., 1915.
- Dr. Anthony Cestare, 208 Sands Street, Brooklyn, N. Y.
  Long Island College Hospital, Brooklyn, N. Y., 1911.

Proposed by Dr. Luther Taylor Jackman
- Dr. Richard Derby, Oyster Bay, N. Y.
  College of Physicians and Surgeons, New York, N. Y., 1907.

Proposed by Dr. Henry Goodwin Webster
- Dr. La Willa Mott Cornelius, 1433 55th Street, Brooklyn, N. Y.
  Bellevue, New York, N. Y., 1891.

Proposed by Dr. L. Howard Moss
- Dr. Emanuel Siner, 8657 106th Street, Richmond Hill, N. Y.
  University and Bellevue, New York, N. Y., 1910.

Proposed by Dr. James Cole Hancock
- Dr. Everett Colgate Jessup, Roslyn, N. Y.
  College of Physicians and Surgeons, New York, N. Y., 1916.
- Dr. Harry Melchior Biffar, 220 14th Street, College Point, N. Y.
  College of Physicians and Surgeons, Baltimore, Md., 1912.
- Dr. Lewis A. Twing, Union Avenue, Center Moriches, N. Y.
  University of Buffalo, Buffalo, N. Y., 1894.
- Dr. Willis Morton Gardner, 85 Halsey Street, Brooklyn, N. Y.
  Long Island College Hospital, Brooklyn, N. Y., 1908.

All of the names recommended by the membership committee were ordered added to the roster by the unanimous vote of the Society as represented by those present.

The Committee, appointed at the June, 1920, meeting, to investigate as to the feasibility of some form of endowment by the Society in connection with the proposed Home for Physicians, the endowment to be associated with the memory of our late member, Doctor Louis Nott Lanehart, of Hempstead, N. Y., reported the plan "not feasible" at the present time and Doctor William Browning, stating that if Doctor Frank T. De Lano, the chairman of the committee, could not bring about the desired plan, it could not be brought about, moved that the Committee be discharged, with the thanks of the Society, and the motion was seconded and carried.

The President, in the absence of the Chairman of the Scientific Committee, presided at the scientific session and first introduced Doctor Matthias Nicoll, Jr., Deputy Health Commissioner of the State of New York, who gave an informal talk advising the physicians of the State of New York to "get together" and use their concerted efforts to combat legislation at Albany, believed by them to be against the public good and the interest and dignity of the medical profession. He also gave us some interesting facts concerning the establishment of diagnostic clinics in parts of the state removed from medical centers, and concerning the placing of physicians in localities where there was great need of their services, this being done, in many instances, at the request of the inhabitants to the State Board of Health.

Doctor Foster Murray, of Brooklyn, N. Y., presented a paper, "The Mechanical Treatment of Tuberculosis," with apparatus for demonstration. This was followed by the following papers: "The Rollier System, and its Application in America," by Doctor Jacques C. Rushmore, Brooklyn, N. Y.; "The Sanitarium Treatment on Long Island," with general remarks about Long Island climate and climate, in general, as related to the treatment of tuberculosis, by Doctor Edwin P. Kolb, Holtsville, N. Y.; "The Care of the Moderately Advanced Case," by Doctor Thomas A. McGoldrick, Brooklyn, N. Y., and "Radium in the Treatment of Tubercular Glands," by Doctor C. Everett Field, of the Radium Sanitarium, New York City, N. Y.

These papers were discussed by Doctors Walter Truslow and Thomas B. Spence and the discussion closed by Doctors Rushmore and Field.

The President appointed the following members of the nominating committee to report at the Annual Meeting, 1921: Doctors Martin M. Kittell, Chairman, Jamaica, N. Y.; James Sears Waterman, Brooklyn, N. Y., and William Browning, Brooklyn, N. Y.

The President also appointed the following members of the auditing committee to audit the treasurer's accounts before the Annual Meeting 1921: Doctors William A. Hulse, Bay Shore, Chairman, Herbert Dana Schenck, Brooklyn, N. Y., and James Charles Kennedy, Brooklyn, N. Y.

After the business and scientific sessions the usual dinner was provided and the entertainment committee is to be congratulated, as usual for the way in which they carried out their part of the program.

Taking it all in all this was one of the most successful meetings in the history of the Society and, judging from general expression of opinion, one of the most interesting. The only regret is that the attendance was not larger, but the quantity was very fair and the quality was especially fine.

The success of this meeting was in no small degree, due to the fact that so many, who intended to go, notified the Entertainment Committee in advance.

James Cole Hancock, Secretary.

EDITORIAL

A SIDE LIGHT ON INDUSTRIAL NURSING.

IN an able editorial article in its August number Modern Medicine calls attention to an aspect of industrial medicine that calls for careful investigation and, should the condition be found to be wide spread, corrective measures. We are told that welfare workers, supervising nurses and others have found factories in which the diagnosis, treatment and care of sick or injured employes has been left entirely to the nurse, who has undertaken to entend her responsibilities far beyond what the law allows. Not only that, but it has been found that some of these nurses were not trained beyond a correspondence school course and that this fact was known to their employers who apparently desired to convey the impression that they had provided an efficient welfare department for their hands, but in reality were attempting to deceive the public, the State authorities, and their employes by providing service that they knew to be inadequate. In one or two plants a physician was ostensibly employed, but the sort of attendance required of him was so restricted that it would seem that his name was merely a blind to cover the work done by a cheap nurse. It is a matter of common knowledge that the more ignorant one is, the more cock sure he is apt to be and probably much of the prescribing of headache powders and dressing of wounds by nurses in the institutions under consideration resulted from a sense of self importance brought about by finding themselves in places of responsibility. But in some cases it was shown that the employer dictated what should be done, and in some instances the physician himself either permitted or urged the nurse to exceed her legal privileges. Like all movements for social betterment, the establishment of physical welfare departments in industrial plants has had a two-fold motive—better work through better working conditions. There are some employees who honestly try to provide a high grade of medical and nursing care for their workers and who pay adequate salaries; there are many more who want a high grade doctor, but are unwilling to pay properly; and there are many who scheme to provide the appearance of service without its substance. On the other hand there are doctors and nurses who have so low a conception of their calling that they will shirk where they can; and there are others who believe themselves to be adequate when they are not. All this is merely saying in some detail what we all know about human nature. To insure against just such conditions, many States have provided chapters of their public health laws defining the duties and privileges of physicians and nurses and providing penalties for those who attempt to practice medicine and surgery without a license. No nurse should be willing to incur the liability to punishment for exceeding her proper duties and the mere fact that she has been directed by her employer or urged by the physician so to do does not excuse her. She brings discredit on herself and on her calling. Furthermore, she should be very chary of discussing medical matters with her patients. There is so wide a field for difference of opinion in so many forms of disease that those best qualified to speak are careful not to say too much, and often the effect of a careless word spoken in a layman's presence is to destroy confidence in a perfectly trustworthy doctor or to discredit a reliable method of treatment. For this and similar reasons none but a thoroughly qualified trained nurse should be employed, except perhaps as an assistant, in industrial work, the very nature of which entails responsibilities calling for nice judgment. There will arise emergencies when ordinary first aid will not be adequate, demanding tact, initiative and skill. At times, in the absence of a physician, she may have to undertake more responsibilities than the law allows and her success will depend on her training. With the full knowledge that such conditions may confront her, the untrained nurse who assumes and the penurious firm who employ her are equally guilty of a grave misdemeanor, to put it mildly. In general, the duties of an industrial nurse, as far as treatment is concerned, should be limited to those of an assistant when a physician is present and to elementary first aid when he is not on the spot. Anything beyond tends to break down the safeguards that long experience has found it essential to throw about the care of the sick and injured. It is one of the just claims of qualified surgeons that the imperfections of Workmen's Compensation Acts permit and even foster a type of surgical care that is disadvantageous to the very men who are supposed to be benefited by the law. It is equally certain that not only does improper care in industrial plants work harm to the sick and injured but it reacts to the discredit of the service and those who give it. Also, the nurse who assumes to exceed her proper duties once, oversteps them more readily a second time and soon comes to look upon herself as qualified for any sort of professional responsibility, until the inevitable happens and some unfortunate loses a hand from preventable infection, or some neurotic girl breaks down from too much acetanilid. It is the trusting innocent that is the ultimate sufferer and his best protection is a rigid enforcement of the laws covering medical practice. In States where these laws are inadequate steps should be taken to place before the people and their law makers a full understanding of the needs of the situation, and doubtless they will correct it—Legislatures seem only too ready to curb the medical profession.

WORKMEN'S COMPENSATION AND THE DISPENSARY.

THE State Board of Charities, which has jurisdiction over Dispensaries throughout the State, has had brought to its attention a state of affairs that has impelled organized complaints on the part of a number of physicians. These physicians complain that contracts, or at least understandings, have been entered into between insurance companies dealing in Workmen's Compensation and the management of certain dispensaries whereby injured workmen are treated gratis by the Medical Staff of the dispensaries and the insurance is collected by the dispensaries to the detriment of the physicians. They claim that such action is forbidden by law and that the case is covered by Rule III of the State Board of Charities which is as follows:

III. The Admission of Applicants.

"All persons applying for advice or treatment at the dispensary shall be interviewed by the registrar or his assistant to determine the question of their admission, and the disposition of each case shall be governed by the following:

(a) All emergency cases shall be admitted and receive prompt treatment and care.

(b) Applicants belonging in the following classes may be admitted in the discretion of the registrar:

1. Patients who are received in dispensaries connected with medical colleges and are selected for use in clinical instruction.

2. Patients admitted for the treatment of communicable diseases.

Other applicants shall be questioned as to their ability to pay a physician for his services and there shall be admitted as patients only those who are in the opinion of the registrar unable to pay a physician or dentist for the treatment required. When necessary for the proper determination of the case, the registrar shall cause an investigation to be made into the financial status of the applicant, and the result of such investigation shall be filed among the permanent records of the dispensary. A record shall be kept of the names and addresses of patients refused treatment under the provisions of this rule."

At a conference between a committee of the State Board of Charities, representatives of the insurance companies, superintendents of a number of dispensaries and representatives of the complaining physicians on October 28, the mater was generally discussed. It was of decided interest to compare the mental attitude of the various representatives. The point of view was as divergent as the interest represented. The insurance companies, through their representatives, maintained that their one care was to obtain the best form of prompt treatment for their injured insured. They stated that all physicians were not qualified to care for such cases; that the nature of the work demanded special experience and equipment; that the ordinary family physician was not always available, was not versed in Compensation requirements, and often did not have the proper surgical training or the needful office equipment; and that they had developed a corps of trained specialists conveniently located to meet the demands of the most exacting surgery. Furthermore, they claimed to have found far better surgical results since these specially trained surgeons had been doing all the Compensation work. Their solicitous interest in the poor working man was most touching. Later, in discussion, they denied that contracts had been entered into with dispensaries, but ventured the opinion that a well equipped dispensary offered advantages for an injured man that might make it worth while to establish a definite relationship.

The Superintendents of several of the large dispensaries openly acknowledged that they regularly accepted compensation cases for treatment in their clinics, charging two dollars for a first and one dollar for subsequent treatments. One of them defended this as entirely legal on the ground that he regarded them as a special class of hospital patients treated in the out-patient department of the hospital. He did not make it clear whether the money collected from the insurance was retained by the dispensary, or divided with the medical staff. One institution permitted its staff to treat such cases outside, under certain conditions, but retained the first fee to cover the expense of dressings. None of them showed much interest in the physicians of their staff, unless it was the one which divided a part of the receipts pro rata among the staff, but all claimed that they did not think they were breaking the law, and if they were, that the law should be changed. The expense of keeping dispensaries running was emphasized and the important thing seemed to be to pay the bills, and let the medical men get what they could. At least that was the impression gained as one listened. Those connected with teaching institutions are in a different position, as the law permits them to accept for treatment such cases as are suitable for teaching purposes, irrespective of whether or not they can pay. All seemed to feel that the actual number of patients who received dispensary care to which they are not entitled is small—about four per cent., according to Dr. Corwin.

The physicians present insisted that, despite denials, it could be shown that working agreements existed between certain dispensaries and insurance companies; that this was illegal; that it worked harm to the profession; that not only was a certain unjust discrimination caused thereby, but that the actual money loss, while small in individual fees, was considerable in the aggregate. They pointed out the absurdity of regarding the surgeon as a trained specialist while he is in the dispensary, but as an unqualified family practitioner in his own office. The same man filled both positions. Why is he not equally efficient, whereever he may be? They asked why the dispensary should receive pay for work done by physicians who received no pay?

Some of the points that no one seemed willing to bring out were the purely commercial aspects of the insurance side of the question. It seems insincere to hide the fact that the schedule of fees, which is notoriously inadequate, must be subscribed to before a physician can expect to obtain compensation work; that this has kept the better element of the profession from accepting such work; that it is cheaper to have compensation cases treated by dispensaries; and that the prime object of insurance companies is to turn out a generous profit for the stockholders. In the nature of things they are treading on thin ice when they emphasize the welfare work and make too much of the high quality of their medical employees. On the other hand, it is not well for physicians to assume too lofty a virtue in discussing their relations with the dispensary problem. There is a definite return in experience, reputation and in money that makes it worth while to do dispensary work; and now that many dispensaries are broadening their horizon and developing the diagnostic side of the work, a dispensary position carries opportunities for study and self improvement that largely compensate for the drudgery and unpaid time. Naturally one feels it an imposition to see the institution pocket fees that it has not earned, and resentment at a commercial bargain that saves money for the insurance company is not to be wondered at. But if one is able to improve his own standing, broaden his experience and improve his technic while he gives really skilled care to an injured man, he should temper his resentment somewhat and cast about for a plan whereby the palpable injustice may be done away with, at the same time that the injured workman may receive a better class of professional care.

Considering all sides of the question it seems that the trend of modern institutional work is to provide opportunities in a more generous spirit for all classes of society. This is shown in the pay clinics already established, in the addition of welfare departments, in the more general use of the maternity wards of general as well as special hospitals and in the reorganization of old established dispensaries as hospital departments where the ambulatory cases may get the benefit of the same team work that characterizes the in-patient care. This the physician is bound to recognize. The time when a few hurried questions and a prescription for a bottle of stock cough mixture made up the whole of the average diagnosis and treatment has gone by. Therefor the physician must study how to keep in the van of progress at the same time that he guards himself from commercial imposition. It might be worth while to abrogate entirely the arbitrary definition of what constitutes a charity patient—it now is the inability to pay more than ten cents for a dispensary visit—and accept all out-patient applicants on a graded fee schedule while the dispensary physician receives a salary. Such a plan has been tried. It has its weaknesses, but it seems susceptible of adjustment until it may be made to meet the needs of profession and public alike. The subject is too big a one to develop editorially, but as one listened to what was said at the conference, it became increasingly apparent that there was something in each point of view that demands recognition and reconciliation. Simply because an injured workman who is taken to a dispensary is a compensation case is no reason for refusing him treatment. This is recognized and emergent treatment is provided for in the law. But shall he, of necessity, be refused further treatments? Must he be referred to some outside physician who, even though he is an insurance doctor, may not be a qualified surgeon? On the other hand shall the dispensary pocket a fee for its surgical supplies while the surgeon does the work gratis? And shall the insurance company profit by getting the highest grade of surgery at an inadequate fee at the same time that the responsibility for the outcome is transferred from its shoulders to those of the institution? These are questions of greater moment than the simple one of showing that the law as it now stands is either openly violated or deftly evaded. There must be a readjustment of all three parties to meet the situation and the suggestion of a graded pay clinic, carefully controlled, with an efficient investigating department to check up on the inevitable unworthy applicant, seems to offer a means to meet the just claims of all parties—patient, doctor, dispensary and insurance company.

H. G. W.

Medical Book News

BOOK REVIEW SUPPLEMENT TO THE *LONG ISLAND MEDICAL JOURNAL*

Edited by JAMES M. WINFIELD, M.D.

All communications, books for review, etc., should be addressed to the Editor of this Department, 1313 Bedford Ave., Brooklyn, New York

1920, No. 11 NOVEMBER, 1920 4 PAGES

NEW EDITION OF OSLER'S PRACTICE

THE PRINCIPLES AND PRACTICE OF MEDICENE. By the late Sir William Osler, Bt. M. D., F. R. S. and Thomas McCrae, M. D. Ninth thoroughly revised edition. New York and London, D. Appleton and Co., 1920. 1168 pages. 8vo. Cloth, $7.50.

To those of us who learned our first lessons in the practice of medicine from Osler, there is a sense of intimacy and comfortable satisfaction in opening the familiar volume, only marred by the feeling of loss that the title brings with it. Though one may never have seen or spoken with him in his life time, Dr. Osler was somchow personally present in his book, as in all his writings, and one felt a closer touch with him than with almost any other medical author. It is peculiarly fitting that Dr. McCrae should have been chosen to carry on his literary work. In the present volume he has been most happy in preserving the character that Osler originally gave to it, so that the new material fits in with the old without a jar. There is the same clear, incisive style, the same straightforward presentation and the same inclusiveness without redundancy.

No lengthy critical review is called for—that was all done twenty-five years ago; only a cordial welcome. The preface gives the list of new material, and a glance through the older sections shows that the revision has been thorough. One does not have to recommend this book for old sake's sake. It is just as desirable as it ever was.

H. G. Webster.

SYMPTOMS IN THE DIAGNOSIS OF DISEASE

SYMPTOMS IN THE DIAGNOSIS OF DISEASE. By Hobart Amory Hare, M. D., B. Sc. Eighth Edition, Thoroughly Revised. Phila. & New York, Lea and Febiger, 1920. 562 pages. Illustrated. 8vo. Cloth, $6.00.

Any person practicing Medicine who is not acquainted with the work of this author should at once consult this eighth edition. The symptoms found in different conditions are carefully presented in groups and the diagnosis made by physical findings. The object of the author is to show us the necessity of proper translation of the physical findings in a patient and to teach us to use our own senses in making a diagnosis.

H. M. M.

AN INTRODUCTION TO PSYCHOANALYSIS

A GENERAL INTRODUCTION TO PSYCHOANALYSIS. By Prof. Sigmund Freud, LL. D. Authorized translation with a Preface by G. Stanley Hall. New York, Boni & Liveright, 1920. 406 pages. 12mo. Cloth, $4.50.

A series of twenty-eight lectures by the founder of the psychoanalytic school, Sigmund Freud, is bound to compel the attention of the medical profession, but this particular work aims to cover a much larger field, for it is addressed to the layman as well as to the medical man. The lectures are elementary in form, and serve their purpose excellently in being easy of comprehension, but in portions they are rather frankly startling for general public reading. Freud has not the vogue in this country that he had a few years ago, largely because so many scientific men cannot subscribe to his extreme views relative to the all-dominating power of sex in the psychic life of the individual in the past and in the present, but as Stanley Hall says in a prefix to the work, one must recognize that he is the most original and creative mind in psychology in our generation. The handicap of the odium sexicum has deprived Freud of academic recognition and has caused him to suffer more or less social ostracism. He allows a little bitterness to creep out in his introductory lecture when he says, "Should I find anyone among you who does not feel satisfied with a cursory examination of psychoanalysis I should not only dissuade him but I should actively warn him against it. As things now stand, a person would by such a choice of profession, ruin his every chance of success at a university and if he goes out in the world as a practising physician he will find himself in a society which does not understand his aims, which regards him with suspicion and hostility, and which turns loose upon him all the malicious spirits which lurk within it."

The lectures are divided into three general parts: the first, dealing with the psychology of errors, the second with a study of dreams, while the third part is a discussion of the theories of neuroses. The section devoted to dreams will naturally be one of the greatest popular interest, but it is also the one which produces the greatest strain upon one's intelligence to accept in anything near its entirety; moreover, it is not adapted to the high school student of psychology.

Taken as a whole, the book is written in a simple, confidential style which will make it readily-perhaps too readily-understood by the general reader, and it does have the virtue of being interesting.

DIABETIC MANUAL

A DIABETIC MANUAL FOR THE MUTUAL USE OF DOCTOR AND PATIENT. By Elliott P. Joslin, M. D. Second Edition, thoroughly revised. Phila. & New York, Lea and Febiger, 1919. 191 pages. Illustrated. 12mo. Cloth, $1.75.

The demand for this complete manual compelled the publication of a second edition. It is far more than a manual or textbook. It is an interesting and instructively written treatise containing all that should be known concerning the treatment of diabetes.

This book should be known by any one treating this condition and will be most useful to the patient as a check on his treatment and his personal observation of himself. The diet tables, the recipes and menus are carefully prepared and will be a great help in the care of a patient. A storehouse of information in one hundred and eight-five pages.

H. M. M.

EXOPHTHALMIC GOITER AND ITS NON-SURGICAL TREAMENT

EXOPHTHALMIC GOITER AND ITS NON-SURGICAL TREATMENT. By Israel Bram, M. D. St. Louis, C. V. Mosby Company, 1920. 438 pages. 8vo. Cloth $5.50.

Bram's book is a plea for the medical treatment of Graves' disease. Its text might be found in the statement found on page 232 to the effect that "Every case of exophthalmic goiter (if not yet moribund) is curable by non-surgical measures of one kind or another." In addition to this, the author quotes from eminent surgical authority the statement that operation is always unsuccessful unless followed up by prolonged and careful medical treatment. Surgical attack upon such extra-thyroid foci of disease as infected tonsils, sinuses or appendix, is considered not only justifiable but indicated. The surgery to which Bram takes exception, is that directed against the thyroid itself, which is a vital organ, and which represents but a portion of the diseased economy in this disease.

The book takes up systematically the anatomy and physiology of the thyroid gland and the pathogenesis, pathology and clinical aspects of exophthalmic goiter. In this section, as throughout the book, the literature is freely drawn on, and in many instances extended quotations are included, but the text runs smoothly, and the author succeeds in presenting a clear picture. It might be remarked in passing that some of the quotations would have more weight if their author's accuracy of observation were as firmly established as their credulity.

The medical treatment is described with considerable detail and should prove a very valuable reference book to any physician having the care of such patients. No royal road to cure is promised, and no new treatment is outlined, but a great variety of remedial measures, psychic, physical and chemical described and analyzed as to their efficacy and mode of action. The author believes it to be impossible to treat any two patients alike but it is not difficult to infer which of the measures described he considers as most frequently of service. The two points in which he perhaps differs from most other writers on the subject are in his statement that confinement to bed is contra-indicated except in case of severe cardiac weakness, and in the frequency with which he uses counter-irritation over the thyroid itself. There is a sensible and helpful section on psychotherapy, which considers the subject from its widest aspect, emphasizing the importance of the patients' frame of mind, and containing many useful suggestions as to how to control it.

If the readers is unconvinced as he nears the end of the book, the chapter on "A Few Case Histories" will give him pause. Here are recorded a number of remarkable and absolute recoveries. As the author remarks "the proof of the pudding is in the eating." If these things can be done by using more patience, resource, courage and optimism, they should be done more often, and the author's plea for conservatism in turning to the surgeon is justified.

T. H.

INTERNATIONAL CLINICS

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles . . . Vol me 2, Thirtieth Series, 1920. Phila. and London, J. B. Lippincott Company, 1920. 314 pages. 8vo.

International Clinics recognizes the rapidly growing field of Industrial Health by the inclusion of this important topic as a regular part of its publication. In Volume 2-Thirtieth series, 1920 as an introduction, clinical cases are taken up by Dr. Paul B. Magnuson and Dr. John S. Coulter. Undoubtedly, great emphasis will be placed upon the surgical side of Industrial Health work, and deservedly so; but it is to be hoped that the phases of Medicine and Sanitation will be given just consideration also. Within industry itself, surgical cases present the dramatic side of health work, but the medical phases including the clinical work and the physical examination of new and old employees, and the hygienic features, constitute the greater part of the service. Furthermore, the preventive surgical work is dependent to a marked degree upon the medical examinations and the results of these examinations are often of interest from a clinical viewpoint.

The International Clinics is to be congratulated upon taking up this subject, which will demand more and more attention from the medical profession in the next few years.

A. E. S.

EPITOME OF HYDROTHERAPY

AN EPITOME OF HYDROTHERAPY FOR PHYSICIANS, ARCHITECTS AND NURSES. By Simon Baruch, M. D., LL. D. Phila. and London, W. B. Saunders Company, 1920. 205 pages. Illustrated. 12mo. Cloth, $2.00.

There is an unquestionable need for just such handbooks as this in the practice of medicine, as the great value of hydrotherapeutic measures is only too often rendered nil by their haphazard or unscientific carrying out.

Dr. Baruch first takes up the rationale and application of water in both health and disease, going on to the technic of hydrotherapy for general effects, finally considering the procedures adapted to various diseases.

There is an important chapter devoted to the location and installation of hydrotherapeutic apparatus.

Such a book will serve as a practical and safe guide to the rational use of hydrotherapy in health and disease.

W. H. Donnelly.

FUNDAMENTALS OF HUMAN ANATOMY

THE FUNDAMENTALS OF HUMAN ANATOMY INCLUDING ITS BORDERLAND DISTRICTS. FROM THE VIEWPOINT OF A PRACTITIONER, By Marsh Pitzman, A. B., M. D. St. Louis, C. V. Mosby Company, 1920. 356 pages. 101 Illustrations. 8vo. Cloth, $4.00.

Dr. Pitzman has written a book of anatomical facts with brevity and clearness. There is no cutting of needed details nor padding on non-essentials.

For the General Practitioner who has forgotten many anatomical facts and who should brush up on anatomy, this book is needed. Through-out its pages there are numerous hints relative to anatomy and general medical work that are useful in every day practice. To the student of medicine for use in the dissecting room this book is the best that has come to my notice. Dr. Pitzman has placed his book between the Dissector, which is too exact on small details, and the Compend, which is too small to be satisfactory.

The average medical man does not keep up his anatomy, because he has to read pages to get the facts for his daily work. He therefore is very weak in this most essential groundwork. After reading this engagingly written work, one is very apt to want to go deeper. He will therefore pull down his anatomy, for reference, and, in conjunction the two will place him in far better line for his work.

Fond memories have been brought back by this well thought out, practical anatomy.

Norman Philip Geis.

THE DAWN OF MODERN MEDICINE

THE DAWN OF MODERN MEDICINE. By Albert H. Buck, B. A., M. D. New Haven, Conn., Yale University Press, 1920. 288 pages. Illustrated. 8vo. Cloth, $7.00.

This recent work of Dr. Buck, published under the auspices of the foundation established in the memory of William Chauncey Williams and William Cook Williams, classes 1822 and 1850, Yale Medical School, is a continuation of a former volume entitled the "Growth of Medicine." It is an account of the revival of the science and art of medicine which took place in western Europe during the last half of the eighteenth century and the first part of the nineteenth.

The volume is divided into thirteen books, the books are again divided into chapters, twenty-seven in all; it is illustrated and contains a complete list of authorities consulted, with a convenient index. Each book and chapter deals with either eminent men, English, German, French and Italian, or describes epoch making discoveries of medicine, like vaccination against small pox, Medical theories, like Broussaism and Homoeopathy, and descriptions of the eighteenth century hospitals, etc.

This work of Dr. Buck will be a valuable addition to the Medical Historian's library.

W.

HYGIENE, DENTAL AND GENERAL

HYGIENE, DENTAL AND GENERAL. By Clair Elsmere Turner, Assistant Professor of Biology and Public Health in the Massachusetts Institute of Technology; Assistant Professor of Hygiene in the Tufts College Medical and Dental Schools. St. Louis, C. V. Mosby Co., 1920. 400 pages. Illustrated, 8vo. Cloth, $4.00.

It is remarkable how much valuable material the writer has condensed into a small compass. It is rare to find so many different fields of the health question covered even in the larger text books. First we meet a consideration of dental hygiene, then in sequence the hygiene of nutrition, of action, of the central nervous system, and of reproduction.

Then come chapters on disease prevention, immunity, oral prophylaxis, communicable diseases and public health administration. The text proper includes chapters on food control, water supply, waste disposal, school hygiene, industrial hygiene, ventilation, heating and lighting.

There are two appendices, the first on the control of communicable diseases, and the second on disinfection and disinfectants.

An unusually good bibliography concludes the reading matter, and it would seem hard to find a single volume publication which so fully and admirably covers so much ground on the extremely important subject of health conservation, whether of the individual or the community.

W. H. Donnelly.

BOOKS RECEIVED

Books received for review are acknowledged promptly in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases review notices will be promptly published shortly after acknowledgment of receipt has been made in this column.

OPERATIVE GYNECOLOGY. By Harry Sturgeon Crossen, M. D., F. A. C. S. Second Edition. St. Louis, C. V. Mosby Company, 1920. 717 pages. 834 Original Illustrations. 8vo. Cloth, $10.00.

THE MICROBIOLOGY AND MICROANALYSIS OF FOODS. By Albert Schneider, M. D., Ph. D. Philadelphia, P. Blakiston's Son & Co., 1920. 262 pages. 131 Illustrations. 8vo. Cloth, $3.50.

THE DEVELOPMENT OF THE HUMAN BODY; A MANUAL OF HUMAN EMBRYOLOGY. By J. Playfair McMurrich, A. M., Ph. D., LL. D. Sixth Edition, revised and enlarged. Philadelphia, P. Blakiston's Son & Co., 1920. 501 pages. 290 Illustrations. 12mo. Cloth, $3.25.

DIAGNOSTIC METHODS; CHEMICAL, BACTERIOLOGICAL AND MICROSCOPICAL. By Ralph W. Webster, M. D., Ph. D. Sixth Edition. Philadelphia. P. Blakiston's Son & Co., 1920. 844 pages. 37 colored plates and 170 other illustrations. 8vo. Cloth, $9.00.

THE PRINCIPLES AND PRACTICE OF MEDICINE. By the late Sir William Osler, Bt., M. D., F. R. S. and Thomas McCrae, M. D. Ninth thoroughly revised edition. New York and London, D. Appleton and Company, 1920. 1168 pages. 8vo. Cloth, $7.50.

THE SIMPLE CARBOHYDRATES AND THE GLUCOSIDES. By E. Frankland Armstrong, D. Sc., Ph. D., F. I. C. Third Edition. London & New York, Longmans, Green and Co., 1919. 239 pages. 8vo. $4.20. (Monographs on Biochemistry).

THE NATURE OF ENZYME ACTION. By W. M. Bayliss, M. A., D. Sc., F. R. S. Fourth Edition. London & New York, Longmans, Green and Co., 1919. 190 pages. 8vo. $2.50. (Monographs on Biochemistry).

THE ESSENTIALS OF CHEMICAL PHYSIOLOGY. By W. D. Halliburton, M. D., LL. D., F. R. S. Tenth Edition. London & New York, Longmans, Green and Co., 1919. 324 pages. Illustrated. 8vo. $2.60.

INFLUENZA. A Discussion opened by Sir Arthur Newsholme, K. C. B., M. D. London & New York, Longmans, Green and Co., (1919). 102 pages. 8vo. Paper, $1.35.

EPIDEMIC ENCEPHALITIS (Encephalitis Lethargia). By Frederick Tilney, M. D., Ph. D. and H bert S. Howe, A. M., M. D. New York, Paul B. Hoeber, 1920. 252 pages. Illustrated. 8vo. Cloth, $3.50.

THE PSYCHOLOGY OF FUNCTIONAL NEUROSES. By H. L. Hollingworth, Associate Professor of Psychology in Columbia University. New York & London, D. Appleton and Co., 1920. 259 pages. 12mo. Cloth, $2.00.

THE PRACTICAL MEDICINE SERIES comprising eight volumes on the year's progress in medicine and surgery. Under the General Editorial Charge of Charles L. Mix, A. M., M. D. Series 1920, Volume 1, General Medicine, Edited by Frank Billings, M. S., M. D., with the collaboration of Burrell O. Raulston, A. B., M. D. Chicago, Year Book Publishers, 1920. 624 pages. Illustrated, 12mo. Cloth, $2.50 (Subscription price for the eight volumes $12.00).
Series 1920, Volume 2, General Surgery, Edited by Albert J. Ochsner, M. D., F. R. M. S., LL. D., F. A. C. S. Chicago, Year Book Publishers, 1920. 620 pages. Illustrated. 12mo. Cloth, $2.50. Cloth, $2.50.

ORGANIC CHEMISTRY for Medical, Intermediate Science and Pharmaceutical Students. By A. Killen Macbeth, M. A., D. Sc., F. I. C., etc. Lecturer on Organic Chemistry, Queen's University, Belfast. London and New York, Longmans, Green and Co., 1920. 235 pages with diagrams. 12mo. Cloth, $2.00.

IMPORTANT ANNOUNCEMENT.

One of the greatest difficulties, long recognized in work for the blind and for those suffering from defective vision, has been the lack of trained workers. Efforts have been made from time to time to provide a course of instruction in a recognized institution of learning that would offer adequate facilities for such training. The hope is this year to be realized by a very comprehensive course of lectures with demonstrations and practical exercises. This is to be conducted by the Graduate School of Education, Harvard University, with co-operation of the Massachusetts Department of Education, Perkins Institution for the Blind, and the Massachusetts Association for Promoting the Interests of the Adult Blind. Recognized authorities have been invited to deliver the lectures and conduct demonstration work. The aim and scope of the work are as follows:

This course is designed to give in a short period a comprehensive survey of the general field of work with the blind and the semi-sighted. It is undertaken at the suggestion of a number of educators and workers for the blind.

In establishing this specialized course concerning the education of a handicapped group, the Graduate School of Education hopes both to advance the cause of service to the blind in general, and also to meet the need of students who wish to prepare themselves for teaching the blind or for working with them.

To make it possible for teachers, school nurses, public health nurses, social workers, and volunteers whose interests already include work with the blind or those suffering from seriously defective vision, as well as for those wishing to fit themselves for service in this special field, the lectures and demonstrations will be given Friday afternoons at 3:30, Friday evenings at 7:30, and Saturday mornings at 9:30, from October 22, 1920, to January 28, 1921.

Further particulars may be obtained from the Executive Secretary, Miss Lotta S. Rand, 17 Lawrence Hall, Graduate School of Education, Harvard University, Cambridge, Mass.

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"THE HEALTH CENTER BILL."*

E. Livingston Hunt, M. D.

Secretary of the Medical Society of the State of New York.

AT the last session of the Legislature there was introduced in both Houses a measure known as the Sage-Machold Bill and subsequently known as the Health Center Bill. This measure was referred to the Committee on Finance, amended, referred back, amended again two or three times and finally withdrawn, so that at present there is no measure before the Legislature.

The State Department of Health has made it evident; in fact, has told us this fall, that it proposes to introduce at the coming session of the Legislature a second Health Center Bill which will embody the principles of the first, differing only in detail. The department admits that the first bill was unsatisfactory and the subject of a great deal of criticism. Therefore, in considering the question of Health Centers we have only one bill to study, and that is the bill which is dead, but when you bear in mind that the State Department of Health is going to embody the principles of that bill in a second bill, then it is only fair and proper for one to take that bill as the basis of study, and that is what I propose to do tonight in a very short way. Now, before I do that I want to tell you what the conditions are which induced the State Department of Health, or, rather, the conditions which the State Department of Health say induced them to introduce such a measure. There conditions are:

First. That the rural communities throughout the State of New York cannot get suitable and sufficient numbers of physicians to attend them. They state that in several communities of from 2,000 to 2,500 inhabitants it is impossible to get a physician; and it is impossible to get near a hospital.

Secondly. They state that the medical classes in the different schools and universities are decreasing in numbers.

Thirdly. They state that the men, since they returned from the war, have been unwilling to settle in the country and have sought the cities and large towns.

Fourthly. They state that the present medical men are getting older and, therefore, in the next five or ten years will be unfit and unable to practice, and that, therefore, during the next five or ten years the situation in the rural districts will be worse than it is today; and I think (although of this I am not positive) that they also state that the death rate is increasing in the country and decreasing in the cities.

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* Transaction Kings County Medical Society, Nov. 19, 1920.

These are the conditions which the State Department of Health states are the cause or reason for introducing a Health Center Bill, and these conditions they have made known to the medical profession throughout the State of New York at county and branch meetings this fall. I think I have heard at least five or six representatives of the State Department of Health address members of the medical societies of New York and other counties.

Now whether these conditions exist or not I am not prepared as yet to state. It will take us some time to get the facts together. I am not prepared to accept or refute these statements, but, for the sake of argument tonight, I am going to assume that they are true. That brings us to a consideration of the Health Center Bill of last year.

Now I am not going to burden you with reading this bill, but I have summarized some of the paragraphs in it, and I think that in the space of about six minutes I can give you the substance of this measure.

The Health Center Bill was divided into three parts—that relating to the county, that relating to the city, and that relating to the state. It says: "The board of supervisors of any county may establish therein a health center or centers which shall serve the whole or part of the county," and that: "Such board, when it has decided to establish a health center, shall formulate a general plan," which plan "shall be subject to the approval of the State Commissioner of Health." I want to emphasize that—the plan will be subject to the approval of the State Commissioner of Health.

Now what is the plan? The plan is formulated as a, b, c, d, e, f and g.

A is for the erection of hospitals.

B is for the establishment of clinics for out-patients, including especially those now regarded as public health clinics.

C is for the establishment of clinical, bacteriological, x-ray and chemical laboratories.

D is for public health nursing service for all parts of the district.

E is for co-operation with the State Department of Education in securing proper medical supervision and medical inspection for school children.

F is for periodical medical examination of such inhabitants of the district as desire it and are willing to pay a proper charge therefor.

G is for headquarters for all other public health, medical, nursing and other public welfare agencies of the district which wish to utilize the same.

That is the general plan.

"The location, site, plans and initial fixed equipment of the health center and of any part or parts thereof shall be subject to the approval of the State Commissioner of Health."

"The board of supervisors, when they shall have determined to establish such health district, shall have the following powers:

1. To purchase or lease real property therefor, or acquire such real property and easements therein. Provided, however, that no such property shall be purchased or acquired until such purchase or acquisition shall have been approved by the State Commissioner of Health.

"2. To enter into contracts for the erection of all necessary buildings and the alteration of any buildings on the property when acquired for the use of such health center or any part or parts thereof, Provided that the location of the buildings and the plans and specifications for such erection and alteration, together with the initial fixed equipment, shall first have been approved by the State Commissioner of Health.

"3. To cause to be assessed, levied and collected such sums of money as it shall deem necessary for suitable lands, buildings and improvements for such health center, or part or parts thereof, and for the maintenance thereof, and for all other necessary expenditures. Provided, however, that where the health center is intended to serve less than a whole county the expenditures made in connection therewith shall be assessed only against the district served by the health center. Said board of supervisors shall also have power to borrow money for the erection of such health center, or parts thereof, and for the purchase of a site therefor on the credit of the county and issue county obligations therefor in the same manner as it may do for other county purposes.

"4. To accept and hold in trust for the county any grant or devise of land, or any gift or bequest of money or other personal property, or any donation to be applied, principal or income, or both, for the benefit of the said health center, or any part or parts thereof, and apply the same in accordance with the terms of the gift.

"5. To appoint a board of managers of the health center." Now this is important. The board of managers "shall consist of eight members, one of whom shall be the county judge ex-officio, and one of whom shall be the president of the board of health ex-officio. Of the others at least one shall be a woman and two shall be physicians duly licensed to practice in the state of New York." The rest of this particular paragraph deals with the matter of the meetings of the board, the compensation to be paid members of the board for attendance at meetings and traveling expenses, the matter of special meetings of the board, for attendance at which no compensation shall be allowed, and the length of terms for which the members of the board shall be appointed.

Next we come to the powers of the board of managers:

"1. To appoint a superintendent of the health center. The district health officer may be appointed as such superintendent.

"2. To fix the salaries of the superintendent of the health center and of all other officers and employees, within the limits of the appropriations made therefor by the board of supervisors.

"3. To exercise general management and control of said health center, of the grounds, buildings, officers, attending physicians, employees and inmates thereof.

"4. To make such rules and regulations as may be advised by the medical board as necessary for the medical and surgical care and of the same officials as now have the control of the other salaries, death in cases terminating fatally. They shall make rules and regulations regulating the fees to be charged for all medical and surgical services in such hospital, and fixing the salaries of attend-treatment of patients and for the study of the nature and cause of carrying into effect of the purposes of such health center. Physicians and surgeons rendering services in hospitals and clinics shall be properly compensated for their services and boards of managers shall see that such compensation is provided."

The powers of the board of managers shall also consist of:

"5. To erect all additional buildings found necessary after the health center has been placed in operation and make all necessary improvements and repairs within the limits of the appropriations made therefor. Provided that the location of the buildings and the plans and specifications for such additional building, improvements and repairs shall first be approved by the State Commissioner of Health.

"6. To employ public health nurses.

"7. To appoint a medical board which shall have charge of the medical and surgical affairs of the health center," and, finally, other powers shall be:

"8. To appoint and employ, after consultation with the medical board, all members of the medical, surgical and laboratory staff of the health center."

Now as to the powers of the superintendent:

"The superintendent of such health center shall be the executive officer of all hospitals, clinics, laboratories and other activities of the health center and, subject to the board of managers and the approval of the State Commissioner of Health, shall:

"1. Equip the health center hospital and all other parts of such health center with all necessary furniture, appliances, fixtures and other needed facilities for the care and treatment of patients and for the use of officers and employees thereof, and purchase all necessary supplies within the appropriations made therefor.

"2. Have general supervision and control of the internal affairs of the health center and maintain discipline therein and enforce compliance with and obedience to all rules, by-laws and regulations adopted by the board of managers for the government and control of such health center and the employees and inmates thereof. He shall make and enforce such further rules, regulations and orders as he may deem necessary, not inconsistent with law or with the rules and regulations of the board of managers.

"3. Appoint such other employees as he may think necessary and proper within the limits of his appropriations, except the attending physicians.

"4. Cause proper accounts and records of the business and operation of the health center to be kept.

"5. Receive, subject to the rules and regulations of the board of managers of the health center, into such health center, any person in the health district who is in need of medical or surgical care, irrespective of whether such person is able to pay for such care or not.

"6. Cause to be made such inquiry as he may deem necessary as to the ability of each patient, or the relatives of such patient legally liable for his support, to pay for his care and treatment." And, then, this paragraph goes on as follows:

"If the superintendent finds that such patient or said relatives are able to pay only in part, or not at all, for the care and treatment in said hospital, the unpaid cost of maintenance or treatment shall become a charge upon the country or district.

"7. Cause to be kept proper records of the admission and treatment of each patient.

"8. Discharge from such hospital or cease to provide treatment for any patient who is found to have recovered sufficiently from his illness no longer to be in need of hospital care, or other treatment.

"9. Collect and receive all moneys due the health center.

"10. Give a bond before entering upon the discharge of his duties."

Now that is the substance of the bill as regards the establishing of health centers in the county.

In the cities the bill varies in this respect: that "the mayor shall appoint the members of the board of managers of such health center and that the Board of Health of such city, if there be such board of health, and that health officer thereof shall be appointed as now or hereafter provided for by law . . . shall be under the control of the same officials as now have the control of the other salaries, contracts, and bonds of the city, and shall be governed by the same provisions of law."

We now come to the third part of the bill—State aid. The bill proposes (a) that one-half of the costs for the construction and equipment of hospitals shall be paid by the State and one-half by the county which accepts and establishes a health center.

"b. A grant of seventy-five cents per day for each free patient maintained in any hospital operated as a part of such health center.

"c. A grant for the establishment of each out-patient clinic of the health center equal to one-half of the cost of installation, the amount to be paid by the State for this purpose not to exceed five thousand dollars per clinic.

"d. A grant towards the ordinary current expenditures for free treatments in such clinic not to exceed fifty per centum of such cost and not to exceed an average of twenty cents per treatment." And

"e. A grant of one-half of the actual cost of maintenance of the laboratory and laboratories of health centers not in excess of Three Thousand Dollars per annum for each laboratory and of Fifteen Hundred Dollars towards the initial installation and equipment of such laboratory."

In other words, the State proposes to pay half and the county that establishes a health center must pay the other half. The bill provides that the whole measure or any part shall be optional. In other words, if Erie County wants to establish a health center, it may do so, and if Schoharie County does not wish to, it need not.

Now, to continue, the bill provides, that:

"The work of all health centers, including hospitals, clinics, laboratories, et cetera, connected therewith, shall be inspected and standardized by the State Department of Health, and all the State grants herein provided for shall be paid only on the written approval of the State Commissioner of Health after inspection of such center and the work therein.

"Provision shall be made by the State Commissioner of Health for occasional or periodical consultations and clinics at the health centers by specialists in medicine and surgery. To these consultations and clinics health officers and physicians may bring their patients for assistance in diagnosis and for advice as to treatment. Persons able to pay in whole or in part for consultative services shall be charged a reasonable sum therefor and the sum so received shall be paid into the treasury of the health center. It is not intended that this arrangement shall in any way affect the private relation which may exist between the patient and his own physician who brings him to the health center."

Now, gentlemen, that is a summary of the Health Center Bill. Those are the conditions which caused the State Department of Health to present it. Now, for a moment let us look at the position occupied by the State Department of Health towards us and then the position which we occupy towards them.

The position occupied by the State Department of Health at present is that they are not committed to anything; that they are open to criticism; that they invite criticism; it must be constructive; that they are friendly to the medical profession; and that they ask your co-operation. They realize, however, that they stand between two fires—the community with its demands on the one hand, and the medical profession with its objections on the other, and specifically the State Department of Health has requested (and probably they will make that request more pertinent later on) that each county in the state send two representatives to a round table conference at Albany with the State Commissioner of Health.

That is the position of the State Department of Health towards the medical profession. Now the fact that this legislation has originated in the State Department of Health calls for your earnest, fair and intelligent consideration. The officers of that department are men of the highest standing in the profession, their motives are beyond question, and they realize that the conditions do exist.

Now as to the position occupied by the medical profession.

The medical profession has been for some time on the defensive. The members can, with great difficulty, be made to interest themselves in legislation. They are not organized and very rarely suggest constructive criticism. They are progressive so far as the science of medicine is concerned, but they are not progressive so far as their relations to the community are concerned. They do not exert any influence or power with their representatives, which they should do. They originate no legislation, and when others legislate for them and about them, they take little interest and do not give sufficient help. Through their own negligence, they suddenly find themselves confronted with legislation detrimental to their interests and wishes.

Now it seems to me that three questions present themselves:

1. Will this legislation affect the community favorably or adversely?

2. Will this legislation affect the medical profession favorably or adversely? And

3. Assuming that the two conditions conflict, what is your duty?

I am only going to take five minutes more, but in that five minutes I am going to give you the main arguments in favor of this bill and the main arguments against it, and then I shall appreciate it if I can hear some of the members present what their views on the subject are.

The arguments in favor of this bill are:

1. The conditions which the State Department of Health state exist.

2. The tendency which this bill affords toward group medicine and advance in medicine, i. e., progress in medicine.

3. The benefit to the community.

4. The fact that some sort of legislation will be enacted under the heading of Health Center legislation, due to the conditions, the demand of the people, and the activities of the State Department of Health, and

5. The fact that such a measure will probably stimulate the medical profession and, so its advocates maintain, educate the country doctor.

What are the arguments against this bill?

1. Too much power is given to the laity and too little to the medical profession.

2. Too much power is given to the county boards of supervisors, which will make for political power and graft.

3. Too much power is given to the State Department of Health. It may be well enough to give such powers as this bill confers to the present State Department of Health, but how about a different and inefficient commission?

4. Too little recognition and power is given to the medical profession.

5. It is a long step towards *centralization of government.* This is doubtless a tendency of the times, but it is very much akin to government ownership of railroads.

6. It is a measure which, to a great extent, tends to, or does, deprive us of our liberties.

7. It is an entering wedge towards state medicine. It may not be state medicine, but it is county medicine.

8. It is unfair in so much that if Dr. Jones is connected with the Health Center and Dr. Brown is not, Dr. Jones will receive advantages of both prestige and financial emolument which will not be open to Dr. Brown. It will advertise the one and condemn to obscurity the other.

9. The bill states, on page 13, lines 10 to 14 (this bill is, of course, not now in existence):

"Any physician who has been attending any patient prior to such patient's admission to the hospital of the health center shall be allowed, if the patient so desires, to continue such treatment while the patient remains in the hospital."

And on page 18, line 3 to 5, it states:

"It is not intended that this arrangement shall in any way affect the private relation which may exist between the patient and his own physician who brings him to the health center."

Now suppose that Dr. Jones has a patient who is ill with pneumonia in his immediate vicinity and that the Health Center hospital is twenty miles away, how can Dr. Jones visit that patient two or three times a day? Will it not rather deprive Dr. Jones of his patient? Will it not take away from the country practitioner his practice, and will it not tend to discourage, rather than encourage, medical men to setttle in the country?

It will put a large number of medical men on a salary and so do away with all initiative and individualism.

10. It is a tremendous additional burden to the tax-payer.

There are ten reasons against the bill and, I think, five or six in favor of it.

Here, then, is the proposition with its advantages and disadvantages:

The legislation is radical, but remember that, so far as we know, the conditions do exist.

The State Department of Health has taken the initiative and is friendly *now*. It invites criticism and the situation calls for thought, discussion and action.

The discussion should be thorough, free and fair. The need is for constructive, rather than destructive, criticism.

My part has been fulfilled. It is to call your attention to the conditions and to the proposed legislation, and to ask for your instruction and advice. Your part is still unfulfilled. It is to discuss and understand the question, to interest yourselves in it, to pass resolutions, to instruct your officers, committees and council, and to make known your wishes to your senators and assemblymen.

I thank you.

Paper: "The Health Center Bill." By E. Livingston Hunt

Dr. E. Livingston Hunt, in discussion, said: "I would simply like to add that the Council of Public Health of the A. M. A. met in Chicago three days ago, and as they came out of their meeting one of the members told me that the Council would endorse the principle of Health Centers, not the bill of last year and not the details, but that they would endorse the principle of Health Centers."

Dr. Frank D. Jennings: "Mr. President, may I ask a question of Dr. Hunt? Do I understand you to mean that the Council of Public Health of the American Medical Association is going to endorse the principle of Health Centers? It means that the state enters the practice of medicine."

Dr. E. Livingston Hunt: "That is what I was told by one of the members of that committee in Chicago on Friday."

Dr. Frank D. Jennings: "It seems that they are not enlightened yet. I thought perhaps after New Orleans they were going to be all right."

Dr. E. Livingston Hunt: "That is why I am here, doctor."

ACIDOSIS. POINTS OF INTEREST IN GENERAL PRACTICE.

William E. McCollom, M. D.

Brooklyn, New York.

IN SEARCHING for information upon a subject such as that of Acidosis where the pathway has been blazed largely by laboratory workers, it is a matter of considerable effort for the man in general practice to gather the salient facts. Many of the problems which are elementary to the laboratory worker are rather mystifying to the practitioner. They are out of his usual run of thought and he is apt to have rather a hazy idea of even some of the simpler physicochemical problems.

It may be of interest to bring together some practical points and the views of the leading writers on the subject. Those mentioned in the references have been freely drawn upon.

Acidosis has been defined as a depletion of the alkali reserves of the body and especially of the bicarbonates of the blood. It does not imply free acid in the blood but does imply an increased hydrogen-ion concentration of the blood. According to Henderson[1], the hydrogen-ion concentration of the blood depends upon the ratio

$$\frac{H_2CO_3 \text{ (Carbonic Acid)}}{NaHCO_3 \text{ (Sodium Bicarbonate)}}$$

If acid reduces the denominator, the respiratory centre is stimulated and the lungs reduce the numerator. Carbon dioxide is thus diminished in amount in the blood, carbonic acid being of course, carbon dioxide plus water. Upon this lowered amount of carbon dioxide in the blood, the two principal tests for the detection of acidosis depend.

Acidosis is ordinarily brought about in one of two ways. Abnormal production of acids, especially oxy-butyric acid, diacetic acid and acetone and insufficient excretion of acids which may be normally formed, as occurs frequently in nephritis.

The abnormal production of the three acids known as the ketone bodies occurs principally in Diabetes Mellitus being due to insufficient combustion of the fats. As Joslin[2] states, a simultaneous burning of carbohydrate is necessary for the proper combustion of the fats and the presence of acid bodies in the urine accompanies a lowering of the combustion of carbohydrate in the body. He says that "it is easier for a diabetic individual to acquire an acidosis because most of the carbohydrate which he eats is lost to his metabolism." Absence of food together with disturbances in the metabolism of fat, according to the same author probably accounts for the frequent acidosis in the gastro-intestinal diseases of children.

In Nephritis normally formed acid bodies are often insufficiently excreted. The kidney in health has the power of varying the ratio of excretion of alkaline and acid phosphates.

Depletion of alkalies occurs comparatively early in chronic interstitial and diffuse nephritis, according to Sellards[3]. If unchecked it progresses and may become the immediate cause of death. Sellards states that it is often very pronounced in Uraemia and that in uraemia at least part of the picture is often due, not to the presence of a foreign toxin but to the loss of a normal constituent of the blood and tissue.

Chase and Myers[4] have published an excellent summary of Acidosis in Nephritis citing several cases where although the clinical picture suggested uraemia, blood chemistry showed comparatively slight urea nitrogen and creatinine retention. Tests for acidosis revealed its presence and intra-venous injection of sodium bicarbonate solution was followed by remarkable results.

With regard to the diagnosis of acidosis, Sellards[3] states that clinically "respiration is increased in depth more than rate. Cyanosis is absent in uncomplicated cases, in fact a bright or abnormally bright color of mucous membranes may be present. Physical examination of the chest shows nothing to account for the labored respiration. Hyperpnea occurs only in advanced stages of acidosis."

Stillman[5] referring to the acidosis of diabetes, says that the "clinical symptoms of incipient acidosis have been found to vary so extremely that any local or general malaise has come to be looked on with suspicion."

For the man in general practice probably the two best tests to determine the presence of acidosis are Marriott's[6] method for the determination of the carbon dioxide tension of the alveolar air and the determination of the amount of sodium bicarbonate necessary when given by mouth to render the urine alkaline.

Marriott's apparatus is easily portable and easy to use. It is generally believed to furnish a fairly accurate estimate of the presence or absence of an acidosis. As stated by Joslin[7], "If abnormal acids are present in the blood, these displace a proportionate amount of carbondioxide, and as the carbon dioxide tension in the alveolar air bears a direct relation to that in the blood, it is evident that the carbon dioxide in the alveolar air will vary likewise. A low carbon dioxide tension of the alveolar air therefore indicates an acidosis." The normal tension is about 40mm. mercury. One of 35mm. is not of importance and below 25mm. is an extreme acidosis.

The determination of the amount of sodium bicarbonate necessary when given by mouth to render the urine alkaline is also a method easily applied.

According to Henderson,[8] in a normal individual, 5 to 10 grams of sodium bicarbonate by mouth are sufficient to produce an alkaline reaction with litmus paper, in the urine, and if more than 10 grams are necessary to do this an acidosis is present.

Sellards[3] states that "5 grams of sodium bicarbonate by mouth is practically the upper limit of normal tolerance, this quantity being almost invariably sufficient in a normal individual to change the reaction of the urine from acid to alkaline."

Van Slyke's method of determining the carbon dioxide combining power of the blood is generally considered the most accurate method. It is useful in hospital work and in the occasional case in general practice but can hardly be carried out by the general practitioner in the usual run of cases.

With regard to treatment, it is agreed that in Diabetes at least, dietetic treatment will do much to prevent the occurrence of acidosis. It is also agreed that measures such as rest, adjustment of diet, enemata, forcing of liquids, 1000 C. C. within each 6 hours by mouth, or by rectum if they can not be retained by mouth, and the support of the heart by Digitalis are all measures of value.

When we come to the question as to whether or not we shall use alkalies, however, we meet with a conflict of opinion especially in the treatment of Diabetes. Joslin, formerly an advocate of the alkaline treatment, now is opposed to their use believing that better results are obtained without them mainly by the measures just mentioned. While admitting that a diabetic patient theoretically needs alkalies he believes that their administration" may set free acid bodies existing combined, quiescent and harmless in the body and thus do harm."[2] He says that they may deplete the body salts especially chlorides, may cause nausea and vomiting and that the kidneys may not excrete the alkali properly.

A contrary view is expressed by Sellards.[3] He believes that it is proper to give sodium bicarbonate in doses of 5 grams by mouth every 2 or 3 hours until the urine becomes alkaline. He states that with proper precautions the use of alkali is not attended by danger or disadvantage and recommends its use in both diabetes and nephritis. In Nephritis with acidosis, he says that large doses of 15 or more grams may be used intravenously. In acute nephritis with anuria, this may start the flow of urine, may relieve air hunger, and control restlessness better than morphine. It is necessary to know the reaction of the urine and it is not permissible to use large doses of alkali intra-venously after the urine has become alkaline.[3]

Henderson[8] says that the use of alkali must be deliberate and founded upon carbon dioxide tests. That it may be harmful if too much is given, especially in nephritis. He believes that it is proper to use it in nephritis and that the kidney can usually excrete a small excess of it. Careful watch must be kept upon the urine.

While in diabetes the production of the ketone bodies may be lessened by lowering the amount of fat and protein in the diet and increasing the amount of carbohydrate, in nephritis we have no direct means of lessening the production of the acid bodies and can only assist in their elimination. If the urine remains acid and the carbon dioxide tension of the alveolar air is low, it would seem desirable to give alkali by mouth or in urgent cases or in coma, intra-venously. When given by mouth, sodium bicarbonate should ordinarily be used in doses of 4 or 5 grams about every3 hours until the urine becomes neutral or alkaline to litmus. When intra-venous injection is required the usual dose is ½ litre of a 3 or 4% solution every 4 to 6 hours, watch being kept upon the upring, the alveolar air, and if possible, the carbon dioxide combining power of the blood plasma.

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THE TREATMENT OF CHRONIC OSTEOMYELITIS.

Thomas Bray Spence, M. D., F. A. C. S.

Brooklyn, New York

RENEWED interest in the treatment of chronic osteomyelitis has been aroused by the large number of soldiers suffering from bone infections as a result of compound fractures inflicted by shrapnel, bullets, grenades and other missiles of war. While no new principles have been recently discovered there has been a greater diffusion of knowledge as to the proper methods to be employed in these cases than heretofore, and probably some of the minor details of treatment which have been introduced will be permanently retained.

The problem to be solved involves the removal of dead bone, the disinfection of the cavity which has been produced, the filling up of the cavity and the healing of the skin. The very multiplicity of procedures which have been adopted with these objects in view is sufficient evidence that surgeons have not found any of them entirely satisfactory, and it is probable from the nature of the disease itself that no perfect treatment can ever be devised. Nevertheless it is our duty to employ the methods which produce the greatest percentage of good results, but it should always be remembered in discussion that the experience and personality of the operator and his assistants must be taken into account. One clinic may do very well with some particular technic, while another will have its greatest success with a different procedure.

The first step in the operation is naturally the removal of necrosed bone and other infected tissues. This demands a long incision in the soft parts and complete exposure of the diseased area so that every particle of dead bone shall be removed if possible and no pockets may be left for the collection of blood which would be liable to future infection. This may be a long and tedious process attended by risk of shock to the patient, but it must be thorough in order to obtain a satisfactory result. Innumerable cases with failure to cure have shown the folly of going at this part of the operation in a half-hearted way, for it always means a repetition of infection and extension of necrosis, exposing the patient to the danger of further operation and to the great risks of chronic suppuration.

The amount of living bone which should be cut away must be determined very largely by the plan of treatment which is to be followed after the removal of the diseased tissues. If it is the surgeon's purpose to fill up the cavity in the bone with a flap of living tissue it is advisable to cut away the sides of the gutter so that the remaining bone is practically flat. A flap of muscle or of skin and fat can often be made to fill the defect so that no dead spaces are left and then it is reasonable to look for rapid healing. We have not infrequently obtained primary union with this procedure and often resort to it. It is especially useful where an isolated abscess exists in the bone and in these cases it is always our choice of methods.

(Read before the Brooklyn Surgical Society Oct. 7, 1920.)

This treatment by primary closure has been used by us for the last dozen years and in our opinion is the most satisfactory method that can be adopted in properly selected cases.

If the conformation of the bone or the apparent virulency of the infection or the general condition of the patient render such a procedure inadvisable there is no advantage in removing so great an amount of bone, since a gutter does not present the same difficulties for the other procedures that can be employed as it would for primary closure. It must be remembered, however, that complete and thorough cleansing of the field is all important whatever is done afterward toward filling the cavity.

Schede employed blood clot to fill the bone defect, Senn used decalcified bone chips and iodoform and Moorhof invented a plug made of iodoform, spermaceti and sesami oil. The first two methods have been practically abandoned and many surgeons have been dispointed in the results obtained from the use of Moorhoof's bone filling. It is undoubtedly true that some of the failures can be attributed to carelessness in following out the details of these methods as described by their inventors especially in regard to the tender after-care which the affected part should always receive. Cotton recommends the use of Moorhof's wax as a temporary filling to be gradually extruded by granulations and not to be closed in permanently as the author of the method intended. It would seem to have its advantages when used in this manner. Our experience with these methods has not been sufficiently extensive to justify a personal opinion of their usefulness, but the few cases in which we have observed the employment of the Schede clot have all been failures.

Transplants of free fat have occasionally been used by various operators for the filling of bone cavities and some of them report good results while others report many failures. Martin of New York prepares the cavity by means of the Carrel-Dakin treatment for a period of ten days to three weeks and then loosens the skin edges, inserts the fat graft and sutures the skin over the graft as well as possible. This method has been very satisfactory in his hands and it seems worthy of trial.

It has been found, in our experience at least, that the Carrel-Dakin treatment alone is usually sufficient for the closure of these defects and it has become our custom to depend upon it in those cases where primary closure is not possible. Healthy granulations very rapidly replace the destroyed tissues as a rule, and it is then possible to complete the healing process by skin suture or by some method of skin grafting in case the epithelium is slow in covering the surface. This is among the simplest of methods and it has the further advantage that some of the other methods may still be tried if the cavity fails to fill up with a sufficient degree of rapidity, for at the worst it prepares the field in an ideal way for the insertion of artificial fillings. It is well to remember that most surgeons do not see a large number of these cases under discussion and therefore do not have an opportunity of learning or developing a technic which is at all complicated or difficult, and for this reason the simplest method that gives a good percentage of cures is the one most likely to succeed in the hands of the general surgeon. The Carrel-Dakin technic is now commonly used in nearly all hospitals and can easily be applied in the treatment of chronic osteomyelities. Our experience with it has been most satisfactory.

(Discussion will be printed in the January number.)

DIPHTHERIA AND TOXIN ANTITOXIN.*

Walter D. Ludlum, M. D., F. A. C. P.

Brooklyn, New York.

A COLLEAGUE asked me if I didn't think it was a fine scholarly paper, referring to a particular one in the American Journal of Diseases of Children. I assured him that I did, and I meant it; the learned gentlemen had collected 24 cases, if I have the number correct, of Acrocephaly, to which they had added one of their own very carefully weighed and measured and worked up to the last degree of completeness; then they had thoroughly reviewed the theories as to the causation and promulgated their own. But what's the use? It is not likely that you or I will see the 26th case, or if we do, they offered no suggestions as to the prevention or relief of the condition; nor is it likely that such a development defect *will* have a preventive or curative measure devised for it. To study these odd cases does add to the gaiety of nations—or, if you please, to the interest of practice and study of medicine and medical research—but they have very little practical value for you and for me. If someone, even an unscientific backwoods physician, should make some suggestion which would inspire new thought or a new plan in the treatment of one of our ordinary diseases of which we see dozens or hundreds of cases, it is likely to be of much more value in the saving of life than many a deeply scientific paper. Thus, in what I am about to say, I have nothing to offer which is new but if I can direct our thoughts to some new or different phase in the management of a disease still serious and fatal it may have some value.

A postal card is small and the more correct title of this paper would be diphtheria with special reference to the Schick reaction and the use of Toxin-Antitoxin.

Previous to the introduction of Antitoxin, the mortality rate in this city from diphtheria was about one hundred and fifty per hundred thousand; this rate was markedly reduced almost immediately, at least in the few years following the use of this remedy. Since that time the reduction has been very slow and slight and the mortality is now practically stationary at about twenty-one per hundred thousand of living population; this is approximately ten percent of the reported cases of the disease.

The efficacy of antitoxin when administered sufficiently early and in ample doses is now practically universally admitted. The still considerable prevalence of and the mortality from this disease then must be explained and there are several items in this explanation. The wide prevalence is due to the fact that this disease, like many others, has a very wide range of severity and in addition to the average case and the acute and fulminating cases there are a great number of mild and unrecognizable, or at least unrecognized, cases; furthermore there are an enormous number of carriers in the city so that it is estimated that in the prevalent time of year one percent of the entire population are carriers of diphtheria. As to the death rate we all know that with all due care we are unable at times promptly to recognize or even to be highly suspicious of some of the cases of diphtheria and with *our* inability to recognize, the often times careless, indifferent and ignorant layman, the mother, will fail to recognize, or even think seriously enough of many cases of true diphtheria to bring them promptly to the attention of a physician; so that granted, as it might be unwise to grant, that the physician was always perfect and promptly administered an adequate dose of antitoxin, many cases of diphtheria would advance beyond the stage where antitoxin would be successful and would succumb to the disease. Fourteen hundred is the approximate number of deaths in this city in the course of a year.

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* Read at a meeting of the Society of Ex-Internes of the Methodist Episcopal Hospital.

We are all, naturally enough, biased by our personal experience and with the above knowledge available, the writer for many years did not personally feel the need of additional diphtheria protection very strongly. His practice has always been largely in that "great middle class" which we are fond of picturing as most intelligent and nearly all his cases recovered fairly promptly after such doses of antitoxin as he administered, some of the earlier ones getting rather small amounts.

Some unhappy experiences, however, even in private practice in the past year or two, cases getting very seriously sick, if not dying two cases of so called vagus paralysis within a week in consultation and some other occurrences opened his mind more widely to the adoption of additional protective measures.

Fortunately, as is not the case with measles and most of our other diseases, two measures have been devised by which, if they could be universally carried out, the Department of Health believes that diphtheria would be entirely controlled and promptly eradicated. The Schick test was promulgated by the man who has given it its name, in 1913. The substance of this, as you all know, is that the injection into the skin of a small amount of diphtheria toxin, demonstrates by a definite reaction the susceptibility, or lack of it, of the individual to diphtheria. The details of administration are published and spread as broadly as the department is able to, by the Department of Health and available to you all, so that they need not be repeated. Suffice it to say that by the injection of 1/50 of the M. L. D. for guinea pig, into the skin a characteristic reaction will occur in the case of the person who is susceptible to the disease. The experience of Schick and now many others, but particularly of Dr. Park and his co-workers in the Department of Health, has shown that this reaction is almost a hundred percent reliable. When the injection is properly made with proper material and the reaction properly interpreted "the positive reaction represents the action of an irritant toxin upon tissue cells that are not protected by antitoxin; it indicates therefore the absence of immunity to diphtheria." Like any other eruption this reaction must be seen repeatedly in order properly to be interpreted; the difficulty of interpretation is caused or increased very much by the existence at times of a pseudo-reaction; this pseudo-reaction is due to the protein injected into the skin and has nothing to do with the presence or absence of the toxin contained in the Schick material. The Schick reaction begins to appear in 24 hours but is most evident in from 3 to 4 days at which time it had best be seen. It consists of a red area from 1 to 2 centimeters in diameter which persists from 1 to 2 days and leaves, as a rule, a marked brownish pigmentation which persists for several weeks followed by some superficial scaling. The pseudo-reaction as a rule is of a more urticarial type, more irregular in outline and fades promptly leaving little or no pigmentation behind. A leaflet issued by the Department of Health demonstrates the reactions probably as well as pictures can.

DIFFERENTIAL DIAGNOSIS

Schick Reaction	Pseudo-reaction
Result of irritant toxin.	Anaplylactic (urticarial)
Begins in 12-24 hours.	Earlier, 6-18 hours.
Circumscribed area.	Irregular outline.
Acme on 3rd or 4th day.	36-48 hours.
Lasts 7-10 days.	3 or 4 days.
Followed by pigmentation.	Slight or absent.
Scaling for 3 to 6 weeks.	No scaling
	Occurs mostly in older children and adults.

The Department supplies, in addition to the Schick outfit another control outfit which contains bouillon material prepared just like the Schick toxin minus the toxin, and suggests the use of this in adults and older children that comparison may be made between a pseudo, if it ocurs, and the other which may be real or mixed.

In several thousand cases of children who have been tested by the Schick reaction the Department of Health has found susceptibility as evidenced by the following scale.

Age	Susceptibility.
Under 3 months	15 percent.
3 to 6 months	30 percent.
6 months to 1 year	60 percent.
1 to 2 years	60 percent.
2 to 3 years	60 percent.
3 to 5 years	40 percent.
5 to 10 years	30 percent.
10 to 20 years	20 percent.
Over 20 years	12 percent.

By this it is seen that from 6 months to 3 years is the time of highest susceptibility. From this time on the rate of susceptibility steadily diminishes. In the children under 6 months the assumption amounts to a practical certainty that a considerable degree of immunity is conveyed by inheritance—or rather transmission—from the mother; with the exception of the first 6 months of life the experience has been practically uniform that a negative Schick, in other words the absence of susceptibility to diphtheria, if once present, is permanent. This is true both in the case of natural immunity and that artificially induced but is not so of immunity induced by the use of antitoxin or an attack of diphtheria.

THE USE OF TOXIN-ANTITOXIN.

As we all know in a general way that the production of antitoxin for therapeutic use is accomplished by injecting a horse with very gradually increased amount of diphtheria toxin, and by this process the amount of antitoxin developed in his blood is very markedly increased. The same process could be employed in the human, but would be very tedious and long drawn out and in fact is never employed. If a sufficient dose of toxin was injected alone to develop antitoxic immunity, the results would be very uncomfortable if not disastrous; it was found however, that by the protection of an adequate amount of antitoxin a sufficient amount of toxin could be introduced to develop a protection in the person, which, as far as observation goes, lasts for life; in other words a Schick reaction in the cases protected becomes negative and stays negative through the length of time now existing since the initial experiment and the later cases as well; this is now a matter of some five years and the assumption therefore is that this protection is permanent. The exceptions are so few as to be negligible and they may be accounted for by errors of technique or interpretation. It was found that a single dose of toxin-antitoxin protected approximately 70% of the children injected, two injections protected 90% and three, 95%. A few seem to be resistant to the use of toxin-antitoxin and continued to have a positive Schick in spite of the three injections.

Systemic reactions after toxin antitoxin not very common at any age, seem to be more frequent the older the person; adults and older children suffer occasionally; in the tiny infants they have not been observed. When occuring, they are like the reaction after antityphoid inoculation but ,as a rule, less severe; no serious sequela has been observed.

Now the practical utilization of the information just given. So far as Dr. Park and his co-workers are concerned, while they have in their own individual use of these two measures protected a considerable number of children their main function is research and Dr. Park said to me the other day they "wanted to know."

Of course we agree with the Department of Health that we wish to protect the entire population of the city from any disease of which we can prevent the occurrence, but our direct and immediate concern is with our private practice and our individual patients and not with the public health situation. What then shall *we* do in regard to this matter?

We have, all of us who are concerned with this kind of practice, general practitioners quite as much as we who see children only, we have all received a certain amount of information, advice and impulsion that we take up this work and "Schick" the population and protect them by toxin-antitoxin, this suggestion coming mostly through the school children first entering school. What shall we do? With some sentimental indisposition I confess myself as being intellectually fully converted to the desirability of the use of toxin-antitoxin on the patients. That it is effective we must take the word of others, we have no means except the experience through a long term of years, of determining whether the measure is an efficient protection or not; however, we assume that it is.

Then there is one point, perhaps one point only, that I have have not seen brought up, which I think deserves discussion and offers some question as to our action in disagreement with the advice given. Why Schick these youngsters at all? The Department of Health wants them Schicked because they "want to know" whether the Schick being positive will turn negative after the toxin-antitoxin, in other words, they, the research division of the Department of Health is after scientific information. Also they wish to avoid unnecessary injections if a case is already insusceptible to diphtheria. Our function is the protection of the individual child. There are several objections in my mind to the use of the Schick by you and me as private physicians in our private work.

In the first place a reason which is not dominant, and controlling; there is the trouble of it, not the trouble of the administration of the material, but in the present state of distribution, the trouble of getting it, having and keeping and preparing it for use. This is one of the conditions in which the Department of Health in their bulk work have a great advantage over us. As you will see by the material which I passed around in the presentation of this paper and which is available to all New Yorkers, and as all of you who have been interested have learned, the proceess of keeping and preparing the Schick material is quite fussy. The package emphasizes that it must be kept *very* cold; then there is only one place, so far as I know, in Brooklyn where it can be secured, the Department of Health's own building on the Flatbush Ave. Extension; then we must keep it icy cold and perhaps the lower part of our ice boxes is not adequate for this purpose. After dilution it keeps less than 24 hours. Further the material must be diluted in *exactly* the correct proportion so that the amount injected shall be exactly 1/50th of the contents of a small capillary tube. If, in our preparation of the material, the extruding it from this tube into 10cc of saline, the drawing up of some little saline into the capillary tube and pressing it out again two or three times, if a little bit of it is lost or a little bit of it drawn too far up into the rubber bulb why we do not get our 1/50th M. L. D. and therefore we do not inject exactly the right amount and we may get a negative where we should get a positive. Then so far as the Department of Health is concerned, in its bulk work having prepared this 10cc it has material enough for fifty injections already at hand, this keeps less than 24 hours. We prepare it, we may have a half dozen in the office in an afternoon and we may have one, but we certainly do not have fifty and I do not believe that even our honored President can run his practice in such a way that he can collect his whole fifty of an afternoon. Then, suppose we do—this preceding criticism after all is not determining—we can go down to the Department of Health once a week, every day, as often as necessary and bring home this stuff and dilute it and give it, one package prepared for fifty, to one person.

Then, the operation itself; it is easy but must be done *exactly,* precisely the correct amount of the material must be injected *into* the skin and then the result must be interpreted. The pseudos are not very common in the children and so that does not count for very much in our work but it does a little.

Still further, they must be seen to be interpreted and seen in two or four days or possibly both; all of my patients do not live just around the corner even if most of them do, and it is some trouble to come back; then, if they were positive, they must have the three more stabs to get their immunity. I feel the necessity even of considering the financial; what shall we charge, full charges for all trips to the office, a wholesale rate for the job or what?

We have no feelings either, but these are mostly little people, Kindergarten age, and I find it harder to give an intra-cutaneous injection, necessarily slowly, than a slightly larger subcutaneous or intra-muscular one. Have you calculated the total number of injections given if you do Schicks on all and toxin-antitoxins on the susceptibles only, or toxin-antitoxins on all. Take a hundred, 60% susceptible, 100 Schicks, 180 toxin-antitoxins, 280 in all; no Schicks, 3 toxin-antitoxins on all, 300 in all. So near the same number that the difference doesn't count, slightly vicarious to be sure, but my practice is to offer the parents their choice, telling them that the Schick possesses slight possibilities of doubt and the use of the three injections offer them 95% assurance of protection, but I will gladly give them the test, if they prefer, and the other injections only if the test shows the need.

Of course it is to be remembered that toxn-intitoxin has no place in the management of those either sick of the disease or directly exposed; its protection is delayed, begins a month or so after its use; therefore children known or suspected to have been exposed should receive the Schick test and then Antitoxin as heretofore; with *any* suspicious symptom antitoxin. In other words it is an "interval operation."

While giving the school children who come to you in response to the urging of the Department of Health their protection it is incumbent on you to offer the same measure to the parents for their younger children for here is where the highest diphtheria mortality lies.

I have considered preparing a leaflet for distribution and the chief reason that I do not is that I would not know how to use it if I did; I have no darky boy to stand at the door to give them to the incoming or outgoing crowd and I would hardly have the nerve to do it if I had. However it is to be thought of and I am sure that the President would approve it.

My thought in preparing these few remarks has been directed essentially to our private practices but there are a few matters outside of this which should receive attention. In child-caring institutions, where the test can be performed wholesale at the convenience of the administrator, I think there is no question that the Schick should be performed and only the susceptible injected with the toxin-antitoxin; in an acute hospital there is a little question, inasmuch as the test would not show and toxin-antitoxin would not protect against infection which had already taken place but the result of the test would be seen in about two days and it is practically safe to use the Schick and protect only the susceptibles just as in a more chronic institution, using antitoxin only if an epidemic should occur or in the case of known or definitely suspected exposure. A given day a week could be set aside and all tested on this day.

As to nurses, at the present time it would seem to be positively criminal to allow a nurse in attendance where diphtheria is likely to occur without the protection of the test and the toxin-antitoxin if necessary. It would seem very simple to make a Schick compulsory, like vaccination and, in most hospitals, inasmuch as they have children's wards, the new nurses could receive their tests the same day that it was being done on some of the children; the practical difficulties would be very small.

With regard to Doctors; as for us older medics, who have been in practice some time. we can rather consider ourselves immune by the test of experience; if not, we should have caught the disease ere now; however it is a small matter and, if where the test is being performed, we might as well know; as a matter of fact my own Schick is negative. The young members of the profession, thinking more particularly of the Internes, ought to be treated like the nurses, except that there should be need of no compulsion, as they are considered adult professional men who should do what they should do as a matter of personal judgment. That they do not always would be the main excuse for making it an official adminstrative matter. At any rate any professional person whose duties do—or may—take him around contagion should receive this protection.

To sum up:

The Schick reaction gives positive evidence of susceptibility or immunity to Diphtheria.

The use of toxin-antitoxin gives immunity to 95% of those, who need it, on whom it is used.

Diphtheria still kills about 1200 in New York each year.

This mortality could be prevented if the entire child population should be protected by toxin-antitoxin inoculation, either after demonstrating the need by the Schick test and the limiting of the injections to the susceptible, or by inoculating the whole of them without; the degree of protection is equal.

Therefore we are called upon to encourage the use of this measure to the extent of our ability.

ANNUAL MEETING

ASSOCIATED PHYSICIANS OF LONG ISLAND

Saturday, January 29, 1921

1313 Bedford Avenue
Brooklyn, New York

EDITORIAL

MORAL VERSUS LEGAL RESPONSIBILITY.

THE NEW YORK TIMES reports briefly the case of a physician of Nimes, in France, who has been tried for "homicide by neglect." It is charged, according to the report, that Dr. Mazel is responsible for the death of two children aged 15 and 17 years. Both had meningitis.

"The charges made against the doctor by the prosecution are, first, that he modified without sufficient reason treatment of the disease established by Professor Gresset; second, that he prescribed excessive doses of strychnine; third, that he employed a totally incapable nurse who knew so little that she used the same unsterilized needle to make injections in both patients; fourth, that he continued the injections, although abscesses had formed, and, fifth, that he employed useless and dangerous dorsal tappings.

The evidence at the first day of the trial was mainly concerning the qualifications of the nurse employed. One witness stated that she had seen the nurse use the same needle on both patients without even wiping it, a charge which was indignantly denied.

Evidence given for the defense was that the mother of the girls was an excitable and hysterical woman who always quarreled with the doctors when the children were ill and had changed them half a dozen times. Asked why he had on one occasion told Mme. Arnaud that the patients were no longer suffering from meningitis, Dr. Mazel pleaded that it was a white lie to calm the feelings of the mother.

The prosecution has called in a Paris doctor to show that the treatment was improper, but all the local doctors have rallied to the support of their colleague and last night a banquet was given in his honor at which doctors proclaimed the necessity of forming a professional union of the syndicalist sort through which to protect their interests."

Is a physician responsible for the nurse? Is he in a position to know the shortcomings that occur in his absence? Is he legally bound to have personal knowledge of a nurse's qualifications? Has he a right to exercise his judgment in changing an established procedure? That his fellow practitioners believe that he acted properly is shown by the banquet tendered him, and most physicians will unhesitatingly answer the questions raised that a doctor cannot be held for the inadequacy of a nurse and must proceed according to the best of his judgment in the circumstances. (The Court acquitted him.). Most malpractice suits are based on motives of spite, hatred or blackmail, few are decided against the doctor and a money return is usually sought by the plaintiff. But here a new procedure is introduced. If the report is substantially correct, the intention is to fix upon the profession the responsibility for failure by proving homicide if the patient dies. This is in line with the act of the Kentucky mountaineer who stood by with a rifle while the surgeon operated upon his wife for an advanced appendicitis, ready to shoot him if the woman died, according to the *lex talionis*—an eye for an eye, a tooth for a tooth, a life for a life. At first thought there can be but one attitude assumed—the physician can but do his best and the event is in nature's hands. But there is a deeper significance that attaches to this action. If a physician is to be trusted with life and death, is he not responsible if he fails to reflect in his actions the best that modern teaching affords? For instance, if a patient dies of mercurial poisoning when treated by the methods of six years ago while a newer method has saved 18 out of 20 recent cases, is not the man who has neglected to keep himself informed criminally negligent? Doubtless he is. The public is steadily becoming more and more alive to this fact and rightly demands that it shall have the best treatment. This demand is expressing itself in the so-called "welfare legislation" that is the expression of a feeling that more should be provided for the public than the profession is now giving. That this is crude, unreasonable in many ways and largely unjust does not take away from the significance of the demand. The strides of modern medicine have been truly gigantic. In twenty-five years more real progress has been made in surgery, diagnosis and medical treatment than in the preceding two hundred. The tax upon the modern physician has been proportionately great; so great that the really busy man has found little time for ordinary reading. Indeed, if he is to read two weekly Journals he must take time out of the night and then must possess unusual discrimination to recognize what is of real value from the spurious. He may have to unlearn next month what he learned the month before. With this formidable task, it is unreasonable to demand that the general practitioner, especially if he be removed from a center of medical learning, shall at all times be equipped to meet the utmost exactions of his calling. In spite of the perfection of modern means of communication medical publications of an authoritative sort are often more than a year old before they leave the press.

Therefor approximate accuracy is all that can be demanded, provided that adequate counsel has been sought and had. Out of this situation has grown the demand for better diagnostic facilities, eventuating in this State in the proposal to establish State supported and controlled diagnostic centers. That the State should enter the practice of medicine is as unthinkable as that it should permit other unqualified parties to take up professional practice. Experience has shown that much of the government controlled industries is vitiated by mismanagement and malign political influence. But that the Medical Profession should put forward every effort to provide the incentive for its practitioners to push forward on the highest plane is beyond argument. Otherwise there will grow a feeling among the laiety that it is more than justified in forcibly interfering with medical privilege and, as in the present instance, unreason will grow and blossom into persecution. The whisperings are growing louder. Now is the time to preclude State Socialism by providing our own means of enlightenment. H. G. W.

CATS AS DISEASE CARRIERS.

A RECENT NOTE regarding a case of diphtheria in an elderly lady where investigation and autopsy of her two pet cats demonstrated undoubted Klebs-Loeffler infection and tracheal ulceration with pseudomembrane in one and a less characteristic lesion in the other, brings up again the question of the rôle which these pestiferous creatures play in the transmission of disease. One feels a deep sympathy for the woman in the case. She placed her confidence, her affection, in a cat, and it repayed her by giving her diphtheria. There are those who would rejoice to think that her folly brought its reward, but we prefer to think of her as the trusting victim of misplaced confidence. The cheering thing about this unfortunate affair is that autopsies were performed. This presupposes the death of the cats, though some enthusiastic feline strafers insist that many, if not most, cats can recover from an ordinary autopsy without material disturbance. Authenticated cases are rare, however. * It would be interesting to have dependable figures on whether the recent outbreak of poliomyelitis in Boston—212 cases since July—is coincident with any notable increase of distemper among Boston cats. If the studies of several bacteriologists showing that the germ of distemper is pleomorphous and assumes the characteristics of the poliomyelitis organism when grown on human media, and vice versa, have been sufficiently verified, it would leave little doubt that the cat is a dangerous housemate for baby to fondle. It is baby who fondles pussy most, and baby is the most frequent poliomyelitis victim—father is very seldom stricken, presumably because most of his fondling is done with the booted foot. The dog, too, is subject to distemper, and if an enlightened public opinion eventually bans the cat, his fate will be determined after the reasoning of the W. C. T. U.—first alcohol, then tobacco. The Boston epidemic is curious in that it has been confined largely to the better class of homes; families in which the children are few and so there is a more favorable atmosphere for pets. In all seriousness, the rôle played by animals as carriers of disease has not received the wide attention and intimate study it deserves. Animal parasitology has revealed the plague-bearing rat flea, the typhus louse, the tse-tse fly and the mosquito and has even tried to cast suspicion on the ubiquitous bed bug, but the essential, often epheneral illness of cats, dogs, and particularly the migratory creatures are too little known.

H. G. W.

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* Poe, Edgar A.—The Black Cat. New York, 1840.

Society Transactions

TRANSACTIONS OF THE BROOKLYN SURGICAL SOCIETY.

Regular meeting of the Brooklyn Surgical Society, held at the Building of the Medical Society of the County of Kings, 1313 Bedford Avenue, Thursday, October 7th, 1920, at 8:30 p. m.

The President, Frank D. Jennings, M. D., in the Chair.

Program

Case Reports:

1. Chronic Pancreatitis.
2. Pyonephrosis.
3. Volkmann's Ischemic Contracture. Patient.

Dr. H. T. Langworthy.

Frank D. Jennings and H. T. Langworthy.

Case 2 discussed by Dr. J. S. Read.

Case 3 discussed by Drs. Walter Truslow, William Linder, R. S. Fowler, Frank D. Jennings and H. T. Langworthy.

1. Osteomyelitis of the Tibia. Amputation.
2. Filarial Hydrocele. Operation.
3. Filarial Abscess, Abdominal.

Dr. Ernest L. Schaefer.

Case 1 discussed by Drs. Roger Durham, A. H. Bogart, R. S. Fowler, C. H. Goodrich, William Linder, A. C. Holzman and E. L. Schaefer.

1. Intra-abdominal Cyst of Traumatic Origin.
2. Acute Cholecystitis with Cholelithiasis in a Child.
3. Complete Fracture of Ischium. X-ray.

Case 1 discussed by Drs. J. M. Scannell, William Linder, and H. K. Bell.

Dr. Harold K. Bell.

Case 2 discussed by Drs. J. M. Duffield, R. S. Fowler, Frank D. Jennings, John Linder and H. K. Bell.

Case 3 discussed by Drs. John Linder, W. L. Duffield, Walter Truslow, John E. Jennings, H. T. Langworthy and H. K. Bell.

Paper:

The Treatment of Osteomyelitis.

Dr. Thomas B. Spence.

Discussion by Drs. J. C. Kennedy, W. H. Rankin, W. A. Sherwood, R. W. Westbrook, R. S. Fowler, J. B. Bogart, T. M. Brennan, R. F. Barber, C. H. Goodrich, E. A. Parker, J. E. Jennings, Walter Truslow, H. F. Graham, A. C. Holzman, William Linder and T. B. Spence.

FRANK D. JENNINGS, M. D., President.

ROBERT F. BARBER, M. D., Secretary.

Chronic Pancreatitis.

Mrs. C. W. Age 48 yrs. Married—Housewife.

Admitted to Methodist Episcopal Hospital, March 31, 1919.

Discharged, April 26, 1919.

Chief Complaint; Severe attacks of epigastric pain for the past two weeks, jaundice, chills, fever, vomiting.

Family History. Irrelevant.

Menstural History. Began at 17 yrs., every 28 days, 5 days duration, some dysmenorrhea, irregular for past few months. Last period March 28, 1919. Two children living and well. No miscarriages.

Previous History. No acute illnesses. Operation—Cholecystectomy at another hospital in November, 1918. (Written report from hospital is as follows: X-ray of Gastro-intestinal tract negative. Operation; Acute Cholecystitis with Stones. Cholecystectomy.) Appetite good, constipated, headache until operation.

Present Illness. Began two weeks ago, March 16, 1919, when patient felt chilly. In the next few days patient had several slight attacks of pain in epigastrium, felt chilly then profuse sweating and fever. Pain relieved by heat somewhat and did not radiate. Pain became more severe requiring hypodermics of morphine. Skin and eyes have become yellow. Urine is very dark and stools resemble putty. Symptoms were relieved somewhat by vomiting.

Physical Examination. Patient well developed and nourished. Skin jaundice. Sclera of eyes yellow. Abdomen: Scar of an upper right rectus incision. Slight tenderness in right upper quadrant just to right of mid-line, on deep pressure.

Blood Examination. Red blood cells, 5,104,000. Hemoglobin, 85%. White blood cells, 4,40. Polynuclear leucocytes, 77% Mononuclears large, 23%. Coagulation time, 4½ minutes.

Urine Analysis. Amber, clear, acid, sp. gr. 1030, no albumen or sugar, heavy trace of bile.

Operation. Choledochotomy, April 3, 1919. Ether aenesthesia.

Incision. Upper right rectus excising old scar.

Gross Pathology. Many adhesions to under surface of liver, no free fluid or are as of fat necrosis observed. Stomach and duodenum normal. Common bile duct enlarged to twice normal size, no stones palpable. Pancreas is symmetrically enlarged to about twice its normal size and of story hardness.

Operation. A T tube was placed in common duct through a longitudinal incision. Split tube drain to Foramen of Winslow. Tubes brought out from upper angle of incision. Abdomen closed in usual manner.

After Course. At first a very little bile came through the tube but considerable on dressings. After one week tube drained freely. Split tube removed on seventh day. Sutures out on ninth day and incision healed by primary union. Jaundice disappeared in two weeks. Stools remain clay colored. From ninth to fourteenth days patient was very weak, profuses sweating, and persistent vomiting. Hypodermoclyses used. From fourteenth day rapid recovery, no vomiting appetite good. Discharged from hospital on the 25th day post operative. T tube allowed to drain freely for three months but patient did not gain weight and stools remained clay colored. Tube was then clamped for five weeks during which time there was no bile leakage, no pain, stools became normal color, appetite excellent and a gain in weight of seven pounds. T tube removed in four months and one week after which sinus closed rapidly.

May 1920. Patient reports that she feels fine, no indigestion or pain and weighs 155 pounds. (13 months after operation).

Conclusions and Points of Interest:

1. That a careful examination of the pancreas should be made in all explorations of the abdomen, especially where there is a diseased gall bladder.
2. That Chronic Pancreatitis cases are apt to have a critical period from the 9th to 14th days post operative.
3. That all Pancreatitis cases require long drainage, at least 3 months.

H. T. Longworthy, M. D.

Dr. R. S. Fowler:

"In that case of pancreatitis were there any glands along the common duct at the time of the second operation?"

Dr. H. T. Langworthy:

"No."

Dr. R. S. Fowler:

"Did the pancreas overlie the common duct?"

Dr. H. T. Langworthy:

"No."

Dr. R. S. Fowler:

"It is particularly interesting that a cholecystectomy had been done without any pancreatitis."

"At the first operation was there any pancreatitis, do you know?"

Dr. H. T. Langworthy:

"I asked for a written report and the only report I got was an acutely-inflamed gall-bladder with several gall-stones."

Dr. R. S. Fowler:

"Undoubtedly, the causative lesion was the gall-bladder, but the removal of that was not sufficient to remove the pancreatitis, which probably had existed at the time of the first operation.

"It is always a great question to decide whether one should drain the common duct in this class of cases or not. In the absence of glands alone at the common duct I usually do not drain, even though the pancreas is thickened. "

"There was no other causative factor in the abdomen, was there, doctor?"

Dr. H. T. Langworthy:

"No."

Dr. William Linder:

"The subject of chronic pancreatitis in the presence of gall-bladder disease is a very important one. Dr. Langworthy made a very good point when he said that in every case of gall-bladder disease the pancreas should be palpated.

"I think in this case a fact must be considered, and that is this: the presence, even at the first operation, of a cholangitis and thickened, palpable, dilated duct, whether you can palpate anything in the form of concretious in it, demands an exploration. I have repeatedly opened up a duct which seemed dilated and thickened and could not feel anything and have removed as many as thirty calculi which came down from the dilated hepatic duct, and I could not, repeatedly having my finger in the foramen of Winslow and my index finger in the common duct, find a single calculus. I have found pus where it was suspected, coming down from the hepatic duct. Where, after doing a cholecystectomy, particularly in the acute case, if the duct is at all enlarged or dilated, whether I feel a concretion or not, a drain is introduced into the hepatic duct. That will also cure the pancreatitis.

"The benefit that the patient received through long-continued drainage is the story of the treatment of cholangitis. Chronic pancreatitis, if that was the only cause, wouldn't necessitate such long drainage, but for cholangitis the only treatment is long-continued drainage.

"I make a plea for more frequent exploration of the common duct. In the absence of calculi, if the common duct stands out and you can see it and it is dilated, make an incision. Pass a probe down to the duct and make sure it is patent. Sometimes calculi in the ampulla of Vater cause a stretching of that. Go up into the hepatic duct and dilate it and frequently you will find concretions. I remember a case where thirty calculi came rolling down from the hepatic duct and there was no jaundice. I am in the habit of opening up the common duct. Kerr, I think, pointed that out years and years ago, stating that an exploratory operation should be done more frequently, and if we do that we will save a great many patients from long-continued suffering as a result."

Dr. Frank D. Jennings:

"Do you know whether there was drainage of the common duct after the cholecystectomy?"

Dr. H. T. Langworthy:

"I think not. It was not so reported."

Pyonephrosis.

Max Newman, M. E. Hospital. Adm. Dec. 8, 1919. Disc. Dec. 21, 1919. Age, 32. Occ. Salesman. Referred by Dr. Cross.

C. C. Heavy dull pain in right loin extending down right side.

Family and Past History Has suffered since 1908—11 yrs. From 1908 to 1912 suffered with a more or less continuous dull pain and uncomfortable feeling in right side of abdomen. Since 1912 the symptoms have been aggravated by acute attacks of pain lasting from 6 to 24 hrs.—during attack would be nauseated—distended with gas and pain would radiate to right loin. Never noticed any urinary symptoms. Never had a hypodermic for relief of pain. Suffered from attacks in May, June, October and November, 1919. Various diagnoses of chronic appendicitis, gall stones, colitis and dilated caecum had been made. He was referred to me because many pus cells were found in urine.

Nov. 11, 1919, *Physical Examination.* Robust, healthy appearing man, normal temperature and pulse. Head, nose and throat normal except for hypertrophied and diseased tonsils. Heart and lungs, normal. Abdomen: Normal except for slight tenderness in right abdominal and lumbar region. Right kidney could not be palpated. Extremities normal.

Nov. 11, 1919, *Cystoscopic Examination.* Cystoscope passed easily and a clear specimen of urine obtained. Bladder normal in appearance and capacity. Left ureter appears normal. Catheterized and specimen of clear urine obtained. Phenol-Sulphone-Phthalein appearing in five minutes. Right ureter slightly pouting, no redness and not tender. Catheterized and no urine obtained. Wax tip passed easily to pelvis and no scratch mark. Urine analysis: Left kidney urine normal. Bladder urine normal except for occasional red blood cells—no pus cells found.

Nov. 12, 1919, (*The day following cystoscopic examination*). At 2 a. m. was awakened —severe pain in right lower abdomen which radiated to right lumbar region—attack lasted 24 hrs. Dr. Cross examined the patient and found a large, smooth, tender, movable tumor in right lumbar region which seemed to be kidney—these findings were confirmed by me on the following day. About three days later the tumor entirely disappeared and again the urine was loaded with pus.

Nov. 28, 1919, *A combination Cystoscopic and X-ray examination was made.* Bladder urine cloudy and loaded with pus. X-ray catheter passed to pelvis of right kidney but no urine could be obtained. Through cathether 60 c. c. of 15% Thorium was injected into the pelvis of right kidney without any discomfort and radiograph taken by Dr. Van Winkle. His report is as follows: Lower pole of left kidney is at level of 3rd transverse process—lower pole of right kidney at level of 4th transverse process. Opaque solution (Thorium) not well demonstrated in right kidney pelvis, but is seen in right ureter extending from sacrum to above level of 3rd transverse process. Shadow of ureter appears normal. Findings suggest enlargement of right kidney.

Dec. 8, 1919, *Urine Analysis.* Amber, straw, cloudy, acid, 1015, Trace albumen. No sugar—many pus cells.

Dec. 9, 1919, *Renal efficiency test.* Phthalein output: 1st hr. 30%, 2nd hr. 12%. Total 42 .

Dec. 9, 1919, *Operation.* Right nephrectomy, right lumbar incision. Gross pathology: Capsule very adherent, kidney slightly enlarged and lobulated. Pelivs—collapsed, very much thickened and about six times normal size. Two large aberrant vessels to lower pole of kidney over which ureter was slung which seems to be the causative factor. Below vessels the ureter appears normal. Vessels and pedicle ligated c suture ligature. Ureter ligated and cauterized c carbolic. Pelvis ruptured during operation allowing some soiling of field. Usual closure with cigarette drain in upper angle of incision.

Pathological Report by Dr. Smith. Right kidney is 10 c. m. in length. On section there are seen several abscess cavities averaging 2.5 c. m. in diameter. Pelvis dilated to four times normal size and very much thickened. Each abscess cavit yis lined with a chronic pyogenic membrane. There are many small foci of infection.

Micriscopical. Long standing pyonephrosis. No evidence of tuberculosis.

Progress of Case. Drain removed on fifth day. Sutures removed on ninth day. Union per primam. Discharged on thirteenth day post operative.

Mar. 17, 1920. Patient reports that he feels fine, has gained fifteen pounds in weight and urine analysis is normal.

Conclusions and Points of Interest.

1. That the aberrant vessels were the causative factor. That he originally had a hydronephrosis which became infected.

2. The various conditions that such a lesion may resemble.

3. That a single urine analysis is not sufficient to rule out a lesion in the G. U. Tract.

4. The value of a cystoscopic examination in all indefinite right or left sided abdominal pain.

Dr. J. S. Read:

"I very much enjoyed that case. I think we all have been through the same experience, namely, liability to diagnose pyonephrosis from the urine. Sometimes the difficulty in getting a pyelogram from the x-ray is due to the fact that the ureter kinks up near the pelvis of the kidney, and while the catheter may be introduced nearly to the pelvis of the kidney, the fluid will not enter the kidney pelvis and runs out alongside of the catheter back into the bladder, and as a result, one does not get a proper picture. The barium is colorless and you do not notice this with the 'scope and when you take an x-ray picture you do not get a dilated pelvis, and that is sometimes very puzzling. In such a case the diagnosis must be made by other means.

"I have found a 25 per cent solution of sodium iodid more satisfactory than barium and it has the advantage of being less expensive, which is something worth considering at the present time."

Volkmann's Ischaemic Contracture.

Patient. Frank Caruso, age 16 yrs. Occ. clerk.

Referred by Dr. Martin, Feb. 4, 1917 (3 yrs. 8 months ago).

Chief Complaint. Paralysis of left hand.

Family and Past History. Irrelevent.

Present History. On October 28, 1916 (3 mo. ago) fell down in the street sustaining a simple fracture of both bones of left forearm about 3 in. above wrist joint. Patient remained in bed about 48 hours after accident without splint; then a posterior splint was applied and worn for 12 days and replaced by a plaster cast from wrist to elbow which was worn for three weeks.

In 24 hrs after accident (before the splint had been applied) there was an extensive painless swelling of entire forearm which persisted for about two weeks. Eight days after fracture (six days before cast was applied) patient noticed that his hand was very blue and that he had lost sensation in the entire hand and was unable to move fingers.

Cast removed—firm union of fracture but paralytic condition persisted.

Physical Examination. A well developed boy—normal in every way except left forearm.

By Inspection. Muscles of forearm atrophied. Fingers in claw shaped position with wrist flexed. Skin smooth, white and glistening and very little hair. Nails present many ridges. Unable to move fingers.

By Palpation. Hand cold—firm union of fracture. Pronation and supination very much limited. When wrist was in extreme flexion—fingers could be straightened. Loss of sensation of entire hand to the wrist.

X-ray Picture. Shows a united fracture of both bones of forearm about 3 in. above wrist in good position.

Treatment. Hand well covered to prevent freezing. A Taylor splint was worn night and day for 1½ yrs. Since Aug. 1918 to the present time the splint has been worn at night. For one year daily passive motion and massage since then three times a week to date. In Dec. 1919, operation. Flexor tendons and muscles of forearm dissected free and some scar tissue excised.

Progress of case. After Taylor splint was applied, in one month claw shaped appearance of hand was overcome. Three months—Shiny skin and ridges of finger nails had disappeared, circulation improved. Six months—Sensation began to return and has been normal since Oct. 1919. Index finger being the last to regain sensation. In 1 year and 6 months (2 yrs. after fracture)—Began work taking milk route and earning $35 per week.

Present Condition. Normal sensation in entire hand—all fingers and thumb freely movable. Muscles of forearm upper one third normal development. Lower two thirds moderate atrophy. Wrist slightly flexed due to contraction of palmaris longus tendon. Able to perform any ordinary labor.

I wish to express my deep appreciation to Mrs. Langworthy. She rendered all the massage and passive motion and last but not least saw to it that the boy did not get discouraged and fail to cooperate in every detail.

Points of interest. Tight splints seem not to have been a causative factor in this case. No benefit derived from operation. Success entirely due to splint and massage.

Dr. Walter Truslow:

"The question of ischemic contracture is quite an important one from several points of view. Fortunately, it is not as common as perhaps some other conditions, but it is altogether too common to make some of us very happy.

"I think, if one may judge from the photograph of the original condition, the result here is certainly an excellent one. They are trying things to overcome, and I think that Dr. Langworthy's conclusion that more is attained by the massaging and by the splinting (the latter being with gradually-increasing force to overcome those contractions) than by the operative procedure is very true. I think that is pretty well borne out by the experience of a good many.

"The second measure used is probably as good as any other.

"A man named Steindler, in Iowa, has devised an elaborate apparatus in which each finger is pulled from a long lever arm that stands further out and is gradually extended, and I presume and know at least from the careful reports, that his results are very excellent.

"Just one moment on the medico-legal side of this question because I think that we should consider the causative factor and its relationship to possible malpractice suits. I think that that is a question that is really of a good deal of importance. Here was an apparent relationship between a tight plaster-of-paris dressing held on for three weeks and the contracture, three weeks you reported, doctor, I think?"

Dr. H. T. Langworthy:

"The plaster cast was not applied until after the paralysis had taken place in this case."

Dr. Walter Truslow:

"I misunderstood that. I thought that the original cast was applied before you had seen it, on account—

Dr. H. T. Langworthy:

"Oh, Yes."

Dr. Walter Truslow:

"On account of the fracture. The plaster was applied for fracture?"

Dr. H. T. Langworthy:

"The cast was applied to the fracture 12 days after the fracture. The paralysis took place 8 days after the fracture."

Dr. Walter Truslow:

"That is a very interesting point and it is one that has been brought out in some of the medical meetings of the Orthopedic Association in discussing that question, it has been so often considered that a tight bandage was the cause of the contracture and has reference to malpractice suits, and I want to draw to your attention the fact that it is not always due to tight dressings, although that may be a causative factor."

Dr. William Linder:

"May I ask Dr. Truslow how he explains his paralysis? If it is not due to pressure, what is the pathology of it?"

Dr. Walter Truslow:

"I think in this case, as in a good many cases, the rough ends of the bones that were fractured pressed against the nerves causing the wrist-drop and the contractions. This is pretty nearly just below the musculospiral, nearer the lower third, but, at any rate, there was evidently some pressure on the nerves. Isn't it possible that the nerve was injured at that time?"

Dr. H. T. Langworthy:

"Yes."

Dr. R. S. Fowler:

"It has been my impression that the paralysis was caused by a lack of blood-supply in the muscle which causes a degeneration of the muscle cells themselves, and that was Volkmann's theory.

"This is the first case in which I have found the paralysis to occur without external pressure. There must have been in this case enough swelling, or enough internal pressure to interfere with the local intimate blood-supply of the muscle cells."

Dr. Walter Truslow:

"I simply called attention to the fact that there are other cases reported throughout the country where it is evidently not due to external pressure."

Dr. Frank D. Jennings:

"This patient had only one splint on. It is usually two splints that cause the condition, and the cases which I have seen have been bandaged on the inside of the splints and the condition has occurred in 48 or 72 hours. This case came on late."

Dr. William Linder:

"In this case we must consider two factors, as Dr. Fowler has said—hemorrhage with extravasation to the soft parts and internal pressure, which in turn brought about an interference with the circulation. I am convinced that there must have been some nerve injury in this case because of the trophic changes which took place. So it is well to bear in mind that we may have two lesions: 1. Interference with the circulation, due to internal pressure, and, 2. trophic changes, due to nerve injury."

Dr. H. T. Langworthy:

"In this case of Volkmann's ischemic contracture I think I can exonerate the doctor from any responsibility because there was no splint whatever applied for 48 hours. In 24 hours the extensive swelling of the wrist and elbow had developed. There was a posterior splint applied for 12 days. On the eighth day the boy noticed a paralysis of the hand. I feel that the fascia covering the muscles of the forearm acted as an internal splint, which was altogether too tight and produced this lesion."

Dr. Frank D. Jennings:

"It seems to me that we, as men working in hospitals, should bear this in mind and instruct internes as to the care which should be taken in dressing forearms. I don't know what your experience has been, but I have seen one or two cases where this condition was due to tight splinting. Internes associated with me are instructed to put only one splint on forearms."

Osteomyelitis of the Tibia (Amputation).

Ernest L. Schaefer, M. D.

Patient a boy of eight years was admitted to the Wyckoff Heights Hospital on January 13, 1919.

Present Illness. For a week before admission patient had pain and swelling of the left leg, beginning just above the ankle and extending nearly to the knee. Was treated for rheumatism, but the condition did not improve. Has had no chills, but has been rapidly losing weight and strength.

Physical Examination. Heart and lungs negative. The region over the middle one third of the tibia is very tender, red and swollen. No pain in the groin. Patient pale and anaemic. Face drawn. Temperature 103°. Pulse 130. Respiration 36.

Family History. Negative.

Previous History. No previous illness except measles. Vague history of trauma.

X-Ray Findings. Osteomyelitis of left tibia, middle one third of the bone affected.

Operation. January 13, 1919. Incision and drainage of left tibia. Periosteum found practically separated from the shaft of the bone. Tibia opened. The bone was found full of pus. An opening was made in the shaft of the tibia about 5 in. long, well beyond the diseased bone. This was packed with plain gauze and a dressing applied. For one week patient had a high irregular temperature. This gradually came down to normal, and remained so for eight days. No pus and the wound granulating in nicely. February 15, one month after admission a reinfection followed with rapid destruction of bone and accompanied by high temperature and a very rapid pulse. At the operation the opening in the tibia was enlarged, and all diseased bone removed. At the end of two weeks the temperature again reached normal. Wound fairly clean. On March 15th patient began to complain of pain in the knee. Four days following had a rapid rise in temperature and pulse. March 20 operation. It was now found that the knee joint was involved, necessitating amputation at the middle and lower third of the femur. For nine days after amputation the temperature varied between 99° and 103° then remained practically normal. Wound healed perfectly.

Bacteriological Report. Streptococcus and staphlococcus infection. In view of the fact that the infection was so severe, the destruction of tissue so great, and the general debility of the patient so marked and with the bacteriological report showing a combined strepto and staphelococcic infection, we thought we were very fortunate in not having other abscesses or other joint and epiphyseal involvements.

DR. ROGER DURHAM:

"I would just like to say that these cases are commonly met with, having been treated as rheumatism, and the fact of finding a patient acutely sick with pains in the extremities, or in the joints, with a high temperature, with a diagnosis of rheumatism, should always put one on the alert. The x-ray in the early stages of an osteomyelitis is of no value because it will show nothing until the destruction of the bone has become quite marked or extensive. In operating upon these cases where there is any question of doubt it is a very simple matter to make a small incision over the region. You may find nothing in the periosteum. The periosteum can be spread apart and a small trephine opening made into the shaft of the bone which will often reveal an osteomyelitis which our x-ray failed to disclose."

DR. A. H. BOGART:

"I think I am correct in saying that it was the late John B. Murphy who was responsible for the statement that acute osteomyelitis was arrested at the epiphyseal junction, and yet in this case the doctor reports having an infection in the knee joint requiring amputation later on. I am wondering how that infection got there, whether that statement is correct or I am wrong.

"Is it possible in operating in these cases with a curet to be too severe and puncture through there? If that is not the cause of it, it might have become infected through the blood-stream, but if that statement is correct, one wonders how the infection got into the knee-joint."

DR. R. S. FOWLER:

"Did, at any time, this disease of the tibia extend as far as the epiphysis? Could you demonstrate that?"

DR. E. L. SCHAEFER:

"No, Dr. Fowler. At the second operation the disease seemed to go about two inches below the knee-joint."

DR. R. S. FOWLER:

"Before the final operation, was there enough involvement of the soft parts to carry the infection to the knee-joint?"

DR. E. L. SCHAEFER:

"There might have been. The wound was not quite clean after the second operation. At the first operation it was very clean. The second time it was rather pusy."

DR. C. H. GOODRICH:

"A few years ago I found a number of instances (three or four) in which there was infection of the joints in these cases of osteomyelitis.

"I think there is no question about the possibility of the blood-stream carrying the infection, although it is extremely rare. As Dr. Bogart mentioned, the epiphyseal line seems to be a line or barrier beyond which the infection does not usually spread, but I think it is not so unusual as to be surprising in this case."

DR. WILLIAM LINDER:

"In my limited experience with osteomyelitis I have encountered a half-dozen joint infections, particularly knee-joint involvement of the tibia, which were repeatedly explained simply by bursting through at the diaphyseal and epiphyseal junction, going on the outside of the joint and then entering the joint. I have repeatedly seen cases where the joint has been involved. I have aspirated the joint and found purulent fluid and by injecting formalin and glycerin and putting the joint at rest it has usually gotten well. I am also in the habit, where the joint is involved, of putting the patient in a splint in order to keep the weight off the limb, because I find patients frequently have synovitis and a purulent synovitis. I think frequently the lesion goes up to the epiphysis. Only today I operated on a child who was operated on three months ago for acute osteomyelitis and had another focus in the humerus, and he came back today for removal of a sequestrum and on chiseling the tibia open I found the lesion went right up to the epiphysis and then ran posteriorly on the inner side almost into the joint. I almost missed that. After chiseling and making a shallow trough, so to speak, in order to get good union, and then dissecting the skin down, in order to be able to put in a flap of skin, and liberating the skin, I found a distinct breaking of the posterior wall of the tibia, which very easily could have involved the joint and shows how these perforating lesions will go up an inch or two away from the original lesion and come in on the outside and then infect the joint."

Dr. A. C. Holzman:

"In a recent article written by Ochsner and his assistant, Crile, in a series of 300-odd cases of osteomyelitis, the statement is made that all pyogenic infections of the bone stop at the epiphyseal joint, owing to the remarkable adherence of the periosteum to the epiphysis, in contradistinction to the tubercular infections of the joint. The statement is also made that there is always a proximal synovitis of the joint in relation to the site of the osteomyelitis, due to a lymphatic obstruction."

Filarial Abscess—Abdominal.

Patient, soldier, 25 years of age, colored, was admitted to the Base Hospital, San Juan, Porto Rico, August, 1918.

Present Illness. Fifteen days ago patient was brought to the hospital suffering from an attack of acute appendicitis. The appendix was removed without any difficulty, stump inverted and the wound closed tight. Normal temperature on the second day and patient feeling fine. On the sixth day after this operation he began to complain of pain in the right lower abdomen. The pain was slight and deep seated. On the 14th day patient had a chill and rise of temperature 104°, headache and vomiting, ending with profuse perspiration.

Previous History. Childhood negative. Venereal history denied. Has had open ulcers on his legs off and on.

Family History. Negative.

Physical Examination. Patient is thin but muscular. Heart and lungs negative. Inguinal glands enlarged. Scars from old healed ulcers on both legs. Reflexes normal. Right rectus muscles rigid and tender over entire lower half of muscle. Abdomen at that point slightly swollen and skin tense, with the tissues showing signs of oedema and inflammation. Inguinal glands on right side swollen and tender. Pain on lifting the right leg from the bed.

Laboratory Fndings. Urine showed indican in excess, otherwise normal. Blood—Presence of filarial larva. A leucocytosis, with 10% eosinophiles and the lymphocytes up to 30%.

Operation. Incision through old appendix wound, through the peritoneum. All of these tissues, especially the peritoneum, were found to be very oedematous and thickened. Mass the size of a large fist felt. This mass was firm, well walled off and filled the right lower abdomen. Intestines and omentum were glued fast. The adhesions being so thick and numerous it was impossible to separate them. By dull dissection with the finger the mass was broken into, and a reddish cloudy fluid rather heavy evacuated. A large rubber tube was inserted for drainage, and the rest of the wound closed. This fluid on examination showed a large number of filaria larva and worms.

Patient had a rather stormy after course for one week, running a hectic fever going as high at 105° at night. Most of this, I think, was due to a rather severe lymphangitis of the lymph vessels and lymph nodes of the right inguinal region. The inner side of the right thigh along the course of the vessels was very tender. About this time an abscess of one of the inguinal glands had to be opened. The temperature came down to normal gradually on the 12th day and remained so. The abscess discharged a yellow fluid for days gradually turning to a creamy-like pus. This let up gradually and at the end of four weeks a sinus was established with practically no discharge. At the end of another month patient was sent to camp as fit for duty. We never could quite satisfactorily explain this abscess. Probably it was due to trauma, at the time of the appendicitis operation, to the tissues from the use of lap rolls, this causing a slight congestion and blocking of the lymphatices by the filarial parasite with a resulting lymphangitis and extravasation of the chylous like fluid.

Note: These filarial cases are very common in the tropics and subtropics but rarely, if ever, met with here. The filarial worm found in man is the filaria bancrofti. It occurs in tropical and subtropical countries and is found in the connective tissue, lymphatics and body cavities. The embryo or larva inhabits the blood. The worm is whitish and transversely straited, 50 mm long and 0.5 mm thick and occurs singly or in groups. The larva is 300° long by 7^u thick, has a sheath and a pointed tail and occurs periodically in the blood, e. i. only at night, or if the man does night work it is only found during his hours of sleep in the day. Transmission is by the mosquito. The mosquito bites the patient and swallows the larvae. These undergo development in the muscle tissues and after 14 to 24 days reach a stage in which they are transmissible to man during the bite of the mosquito. According to Manson these parasites may produce any of the following conditions: Abscesses, lymphangitis, varicose grain glands, varicose axillary glands, lymph scrotum, cutaneous and deep lymphatic varix, orchitis, chyluria, elephantiasis of the leg, scrotum, vulva, arms, mamma, etc., chylous ascites, chylous diarrheoa. Manson describes two principal types of filariasis, one characterized by a more or less solid oedma as our first case. The other by a varicosity of the lymphatics probably the cause of our abscess in the second case.

Filarial Hydrocele—Operation.

Patient, male 24 years of age, was admitted to the Base Hospital, San Juan, Porto Rico, June, 1918.

Present Illness. For the past two years patient has noticed an enlargement of the left testicle, of about the size of an egg. Two months ago he was drafted, and sent to camp, drilling for hours every day. Since then the left scrotum has been getting progressively larger, causing some discomfort due to its weight.

Previous History. Cannot remember having had any diseases of childhood. Venereal history is denied. Had an attack of malaria some years ago.

Family History. Negative.

Physical Examination. A young man, fairly well nourished, muscular, somewhat pale and anaemic looking. Heart and lungs negative. Hydrocele, left, size of a small orange. Inguinal glands, both sides, enlarged. Reflexes normal. Urine normal.

Operation. Incision over the hydrocele; structures of the cord, the sac and testes separated from the scrotum; sac incised, and a slightly reddish turbid fluid evacuated. Bottle operation performed. Some of the tunica vaginalis, however, was removed. Wound closed without drainage. A collodian dressing applied.

After Course. The following day on visiting the patient, I was greatly surprised and disappointed to find the scrotum enlarged to the size of my head. The tumor was tense and firm. The skin bluish in color. No fluctuation, or fluid wave to be felt. The patient had some pain, but a normal temperature and being a Porto Rican and very superstitious he thought I had ruined him for life. Diagnosis of secondary hemorrhage was made. Two of the skin sutures were removed and the wound explored. No blood found. The tissues, however, were found to be thickened and distended due to an infiltration of a reddish yellow fluid. The infiltration was uniform, thus giving the tumor the hard, firm feel. Scrotum was elevated and a cooling lotion applied. That night the patient had a chill and rise of temperature to 102°. Next morning the condition of the scrotum the same. The dressings were wet with the reddish yellow discharge. More drainage was decided upon to relieve the tension. Four or five incisions were made through the skin the length of the tumor. For seven days the dressings were changed at least twice a day more or less saturated with this reddish discharge. Temperature 100° to 102°. Slight pain only. Examination of these discharges showed the presence of the filarial threadworm or parasite as well as the embryo worm. After repeated nocturnal examination of the blood Dr. Guiteras succeeded in finding the embryo or larva there also. Patient was now treated for filariasis with potassium iodide and injections of salvarsan receiving six of the latter, one every week. The enlarged scrotum after one week slowly began to diminish in size, the temperature gradually coming down to normal. The discharge also began to lessen in amount, but became thicker and looked more like pus. No organism found, however. During the third week it was found necessary to establish through and through drainage on account of this thick creamy-like discharge. Irrigations of hot saline, twice a day, through these tubes was now used. At the end of the 4th week the scrotum was the sizze of an orange, discharges lessening. At the end of another month the scrotum was still the size of a small orange but no more drainage. Sinuses practically healed. Patient was, however, quite anaemic and had lost considerable weight. At the end of another month he was sent back to camp for duty, scrotum still enlarged. This, however, will never return back to normal size, some permanent thickening of the skin and subcutaneous tissues always remaining.

NOTE: Although these cases are very common in the tropic and subtropics, anywhere from 5 to 40% of the population suffering from filariasis, we very rarely see them up north. However, in making our diagnosis of hydrocele, a filarial condition must always be borne in mind, especially, if the patient comes from, or has lived in a tropical country, for the end results very often are very grave following operation.

These cases are not a true hydrocele, but a chylocele. As a rule they are not operated upon unless they grow so large as to become unsightly or inconvennient and then only after an attempt has been made to rid the system of the filarial larva and worm. There is always great danger of elephantiasis of the leg or scrotum occurring. Manson reports a case of elephantiasis of the scrotum where the tumor weighed 224 pounds. When operation is decided upon, the bottle operation which I did, is not performed as it leaves a large secreting surface and this chylous exudate is the result. The radical operation for hydrocele, and swabbing the raw edges of the cut tunica vaginalis with pure carbolic acid is the operation performed. Also a drain is always left in the scrotum. Tapping of the hydrocele, injection of iodide, carbolic and various other such agents have all been tried with varying results.

Intraabdominal Cyst of Traumatic Origin.

Harold K. Bell, M. D.

M. S., a girl of thirteen years, of Jewish parentage, was admitted to the service of Dr. Russell S. Fowler at the Methodist-Episcopal Hospital on August 6th, 1919, with the following history:

Ten days previous, while playing on the street, she collided with a push-cart, the handle of which struck her in the upper abdomen, on the left side. She was put to bed and apparently was fairly well for a few days, except for considerable tenderness and a little pain in the left hypochondrium; but three days prior to admission the pain and tenderness greatly increased and she became much sicker. Vomiting ensued and was persistent, and during the twenty-four hours immediately preceding her admission to the hospital, a swelling was noticed at the site of the injury. The bowels were very constipated from the time of the accident.

Physical examination showed a young girl apparently very sick, features drawn, pupils dilated; breathing fast and jerky; groaning constantly; in mild shock. Tongue coated. Breath sounds generally exaggerated—no rales; expansion of left lower chest distinctly impaired. Heart sounds rapid, fair quality; no murmurs. Examination of the abdomen revealed a large immovable mass in the left upper quadrant extending from the free border of the ribs to one inch below the level of the umbilicus, and from the mid-line to the anterior axillary line. Distinct dulness was present over the tumor mass—tympanitic elsewhere over the abdomen; abdominal tenderness generally distributed, but most marked over the tumor; muscular rigidity most pronounced in the left upper quadrant. Temperature, 102 degrees Fahrenheit; pulse, 130; respirations, 40. Blood count: White cells, 32,500, with 88 per cent poly. cells.

Preoperative Diagnosis.

1. Abdominal abscess, from slow leak of ruptured gut.
2. Abdominal hemorrhage.

Operation. The abdominal cavity was opened by a five-inch left rectus incision, extending from the free border of the ribs to the umbilicus. This revealed a large tense mass filling the lesser peritoneal cavity. Breaking through the omentum permitted the escape of about two pints of old dark blood with some clots. The blood was sponged away and a bleeding vein in the gastro-hepatic omentum was clamped and ligated. A split tube to the foramen of Winslow and loose gauze packing were inserted. Layer closure of the abdominal wall.

For the first week of her convalescence, the patient vomited repeatedly and had many attacks of sharp, cramp-like abdominal pain with moderate tympanites. The temperature dropped to normal on the third day, but rose occasionally to 100 degrees Fahrenheit or 100.5 degrees Fahrenheit for a week thereafter. There was a slight amount of purulent discharge from the upper angle of the wound for two weeks; drainage was discontinued on the seventeenth day and she was discharged cured one month after her admission.

This patient was discharged from the hospital on September 7th, 1919, and was not seen again by me till January 25th, 1920, when she was brought by her mother to my office with the following history:

She said that during the preceding two or three weeks she had had a dull pain at the site of her abdominal incision with occasional sharp, cramp-like pains. Exercising, going up and downstairs, or walking increased the pain; rest in bed alleviated it. During the preceding week these symptoms had increased in severity, the pains becoming sharper and radiating to the back. There had been no fever; appetite fair; bowels costive, but moved by cathartics.

Examination revealed a firm rounded mass in the left upper quadrant of the abdomen, extending from just below the free border of the ribs to the level of the umbilicus. This tumor extended well posteriorly and could readily be moved between the examining hands with one hand on the left kidney region, and was moderately tender.

She was admitted to the Methodist Episcopal Hospital on January 25th, 1920. She had no elevation of temperature; the tumor mass cast no shadow on the x-ray plate. The blood count showed 12,000 white cells with 60 per cent poly. cells. Rest in bed for a few days alleviated her symptoms considerably.

A provisional diagnosis of encapsulated blood-clot or abscess was made.

Operation. Left rectus incision, one inch to the inner side of the old scar. Many adhesions of the omentum and intestines to the abdominal wall were separated. A firm, hard tumor, about the size of a small grape fruit, but oval in shape, was disclosed in the lesser peritoneal cavity occupying the site where the blood and blood-clot had been found at the previous operation. This mass was carefully dissected free from the stomach and intestines, which were firmly adherent to it, and removed. Cigarette drain inserted in cavity; omental tear closed; abdominal wall closed in layers.

On removal, the tumor felt distinctly cystic. Incision into it showed a wall a quarter of an inch in thickness, containing about thirteen ounces of cloudy yellow fluid with a small amount of bright yellow flaky material adherent to the interior. The lining was shiny and glistening.

Convalescence was uneventful; the wound healed by primary union and the patient was discharged on the sixteenth day. I saw this patient in my office ten days ago. She has been perfectly well since her last operation.

Dr. J. M. Scannell:

"Was there any pathological examination of the tumor which was removed?"

Dr. H. K. Bell:

"The tumor was not examined."

Dr. William Linder:

"Was the fluid from the cyst examined?"

Dr. H. K. Bell:

"The fluid was not examined either, doctor."

Dr. William Linder:

"It seems to me that we might consider the possibility of a pancreatic cyst; that she had hemorrhage and obstruction of the pancreas. It had to go through the omentum first to get into the cyst, and the most frequent cyst formation in that region is a pancreatic cyst. It is too bad the fluid was not examined to see if there was pancreatic juice in it."

Acute Cholecystitis with Cholelithiasis in a Child.

Harold K. Bell, M. D.

Agnes M., a schoolgirl of fourteen years of age, was admitted to the service of Dr. Warren L. Duffield at St. John's Hospital on July 12th, 1920.

Chief Complaint. Pain and tenderness in the right upper quadrant of the abdomen and vomiting.

Family History. Irrelevant.

Past History. Two weeks prior to admission she was sick in bed suffering from sore throat and frontal headache ,and had frequent nose-bleeds.

She was ill for one week. She had had no previous attacks similar to the present illness.

Menstrual. Had not yet menstruated.

Present History. On Saturday, July 10th, at 12.00 M. (two days before admission), the patient was seized with intermittent griping pain in the lower abdomen and umbilical region. She vomited in the early afternoon and the pain increased in severity. An enema was administered, which was effectual and afforded temporary relief. On the following day the pain and vomiting continued and in the late afternoon the pain became located in the right upper quadrant of the abdomen, still of the same intermittent character, but more severe. On the day of admission to the hospital the pain and tenderness continued, located principally in the mid-abdomen and right upper quadrant. Occasional vomiting spells. No chill; no headache.

Physical Examination. Well developed girl; white; 14 years of age. Appears acutely ill; moaning constantly.

Head. Eyes, ears and nose negative.

Mouth. Tongue coated; teeth excellent. Throat not injected; tonsils normal.

Neck. Negative; no enlarged glands.

Thorax. Lungs normal.

Heart. Apex in normal location; rhythmical; no murmurs; rate, 120.

Abdomen. Pain and tenderness over the entire abdomen; markedly accentuated on the right side, in the upper quadrant, but extending down to McBurney's point. Rigidity marked, more pronounced on the right side. Peristalsis not excessive. Spleen and liver not palpable.

Genitalia. Normal.

Extremities. Normal.

Neuro-muscular System. Normal.

Skin. Hot (temperature, 102.4 degrees Fahrenheit); no jaundice.

Blood Count. Leucocytes, 21,000. Poly. cells, 84%. Small lymphocytes, 14%. Large lymphocytes, 2%. Hemoglobin, 80%.

Urine. Clear, straw-colored, alkaline, 1022, no albumin or sugar, indican normal. No casts. Many epithelial cells and triple phosphates.

Preoperative Diagnosis.

1. Acute appendicitis.
2. Acute cholecystitis.

Operation. High right rectus incision. Appendix inspected and found to contain an enterolith in the distal third; removed in the usual manner.

Gall-bladder found to be intensely inflamed, tense and distended; stomach adherent to it.

Gall-bladder aspirated; 2½ ounces of thin purulent fluid obtained; incised—single stone removed. Palpation failed to disclose any additional stones in the gall-bladder or ducts. Rubber drainage tube inserted into gall-bladder; double purse-string of plain gut inserted; bladder wall attached to parietal peritoneum. Cigarette drain used. Usual layer closure.

Laboratory Reports. Culture of pus from gall-bladder identified the staphylococcus albus.

The single stone removed had the dimensions of 2 by 1½ by 1½cms.; fairly smooth; brownish-green in color; hard, but brittle, and composed of bile salts.

The convalescence of this child was uneventful. The temperature dropped to normal on the fourth day. Bile began to escape through the drainage tube on the fourth day, and the tube was removed on the ninth day. The sinus had completely closed and the wound was strongly healed when the patient was discharged on the twenty-fifth day after operation. I saw this patient in my office yesterday. Her health has been excellent since her discharge from the hospital.

Dr. R. S. Fowler:

"Was that considered an accidental infection, the finding of the staphylococcus albus in the fluid?"

Dr. H. K. Bell:

"It was simply a report of the pathologist. She had a tonsillitis two weeks previous. We did not consider particularly that it had been caused by the staphylococcus albus."

Dr. Frank D. Jennings:

"Referring to the point raised by Dr. Fowler: several weeks ago I got a similar report of a staphylococcus albus in which I put the tube against the gall-bladder, where the fluid from the gall-bladder went directly from the gall-bladder into the tube. I took the matter up with the pathologist and, as all pathologists say, he said that that was what was found. I do not think that bug was in the gall-bladder. It may have been in the tube."

Dr. John Linder:

"Last year I reported before this Society the case of a girl 15 years old who was operated on for acute appendicitis. About four weeks after this attack she developed a cholelithiac attack with a palpable gall-bladder extending to the umbilicus. I did a cholecystectomy on her and she made an uneventful recovery. The point of interest in that case was the acute appendicitis, with the subsequent acute gall-bladder with a cystic stone block in a girl of 15."

(To be Continued)

Medical Book News

BOOK REVIEW SUPPLEMENT TO THE *LONG ISLAND MEDICAL JOURNAL*

Edited by JAMES M. WINFIELD, M.D.

All communications, books for review, etc., should be addressed to the Editor of this Department, 1313 Bedford Ave., Brooklyn, New York

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DIAGNOSIS AND TREATMENT OF BRAIN INJURIES.

DIAGNOSIS AND TREATMENT OF BRAIN INJURIES WITH AND WITHOUT A FRACTURE OF THE SKULL. By William Sharpe, M. D. Phila. and London. J. B. Lippincott Company, 1920. 757 pages. 232 illustrations. 8vo. Cloth, $8.00.

In this present work comprising the results of a study of a large series of acute brain injuries with and without fracture of the skull, Dr. Sharpe has presented in a very readable and instructive fashion, first the principles involved in the mechanism of cranial fracture, and secondly the resultant injuries to the brain. He has also covered very completely the injuries of the brain which may follow trauma to the head even when there be no cranial fracture present. The treatment of the brain injury receives pre-eminent attention, and Dr. Sharpe rightly emphasizes the great importance of the injury of the brain as compared with the relatively minor importance of an accompanying cranial fracture. After discussing the symptoms and signs of acute brain injuries in a very effective fashion, he then discusses the very important question of the significance of intra-cranial pressure, which is after all the prime factor to be considered in the surgical treatment of brain injury. In the last analysis it is the intracranial pressure which the neurological surgeon primarily hopes to relieve, for it is permanent brain damage or even medullary paralysis following prolonged intracranial pressure of severe grades which he hopes to avoid. The technic of subtemporal decompression is very clearly described and most helpfully presented by being so well illustrated by numerous photographs and diagrams of the instruments used and of the technical steps of the operation. These subjects occupy Part I. of the book.

In Part II. a large number of well representative cases are presented which illustrate the points which he makes in the first part of the book and which are very hepful in fixing firmly in the mind of the reader the appearances and findings in cases of acute and chronic brain injuries in adults. The late results of chronic brain injuries, such as various neuroses, traumatic epilepsy, and even paralysis are described in a very illuminating fashion.

In Part III. acute and chronic brain injuries in new born babies and children are discussed. This is a very important part of the book, for it is a subject which has, perhaps, previously received less consideration than it should, since it was relatively less well understood. Great emphasis is laid upon the late bad effects of untreated cranial birth injuries resulting from cortical extravasation or of even grosser brain injury and particular stress is placed upon cerebral paralysis resulting from intracranial lesions persisting after the birth injury. The book throughout is beautifully illustrated with representative photographs, rontgenograms, drawings and sketches which add greatly to its value. From the point of view of scientific presentation of the subject one might wish that more references had been given to the bibliography of the subject and to the work of a considerable number of surgeons in the past. However, the book fulfills the purpose of instructing the surgeon who is doing or striving to do good and effective neurological work by informing him of the importance of the operative treatment of brain injuries with and without fracture, particularly when there is an increase of intracranial pressure present. It fulfills this purpose very admirably. It is a book which should be in the hands of every surgeon who is doing or hopes to do successfully the very important and delicate surgery required for the treatment of surgical neurological conditions.

Emil Goetsch.

DIAGNOSTIC METHODS.

DIAGNOSTIC METHODS: CHEMICAL, BACTERIOLOGICAL AND MICROSCOPICAL. By Ralph W. Webster, M. D., Ph. D. Sixth Edition. Philadelphia. P. Blakiston's Son & Co., 1920. 844 pages. 37 colored plates and 170 other illustrations. 8vo. Cloth, $9.00.

Dr. Webster's text-book has long enjoyed a high reputation among works on clinical pathology. A careful study of the new sixth edition shows that it not only equals, but surpasses the standard of previous editions. There is a large amount of new material included in this edition, chiefly the product of American workers and along chemical lines of research. For example, we find a number of new methods from the laboratory of Folin for the chemical analysis of blood and urine-methods which will probably supersede the technic in use at present. There is a full discussion of Mosenthal's test meal for renal function. The chapter on the reaction of the blood has been re-written to include present conceptions of H-ion concentration and methods used in this study. In many other minor details the book has been brought up to date. We think that the chapter on gastric contents merits one criticism. In a discussion on this subject, otherwise full and complete, the author has relegated mention of the work of Rehfuss to a foot-note. It seems to us that Rehfuss' method of fractional gastric analysis and his results deserve extended notice. However, we live in hope. Having reviewed practically all of the standard works on clinical pathology during the past year, we find Dr. Webster the first even to mention Rehfuss. Perhaps future editions will give this work the space it deserves. In other respects, the composition and make-up of this book merit the highest praise.

E. B. Smith.

ADVANCED LESSONS IN PRACTICAL PHYSIOLOGY.

ADVANCED LESSONS IN PRACTICAL PHYSIOLOGY FOR STUDENTS OF MEDICINE. By Russell Burton-Opitz, S. M., M. D., Ph. D. Phila. & London, W. B. Saunders Company, 1920. 238 pages. Illustrated. 8vo. Cloth, $4.00.

This book forms an appropriate companion to the author's recently published "Text-Book of Physiology"; supplying the medical student with a laboratory guide sufficiently comprehensive and detailed to materially aid him in the acquisition of first-hand knowledge of the elements of the subject. In its fifty lessons explicit directions are given for about as many experiments as may be conveniently conducted by students during the curriculum time allotted to the subject in an American medical school of the first rank, and to these is appended a list of thirty demonstrations, for the conduction of which no directions are given because none are required. Its subdivisions are judiciously apportioned, it has been carefully written, well printed and illustrated, and is therefore worthy of recommendation to students and teachers of animal physiology generally. Considered either by itself or as complementary to the author's "Text-Book" it is a valuable addition to the armamentarium of the American medical student, and its general employment as a laboratory guide-book in our medical schools would be assured were it not for the fact that so many teachers prefer to use their own typed or printed lesson-sheets for the purpose.

J. C. C.

HUMAN PARASITOLOGY.

HUMAN PARASITOLOGY with Notes on Bacterilogy, Mycology, Laboratorl Diagnosis, Hematology and Serology. By Damaso Rivas, B. S. Biol., M. S., M. D., Ph. D. Phila. & London, W. B. Saunders Company, 1920. 715 pages. Illustrated. Plates. 8vo. Cloth, $8.00.

This work is a valuable and interesting

contribution to the literature of parasitology. The casual reader probably underestimates the importance of this subject; so that the author's statement that one third of all diseases are of parasitic origin, this, of course, including the bacterial infections, startles one into attention. The fact that modern transportation and commerce have exploited those regions where parasitic diseases are prevalent makes it more necessary than ever for physicians to have a knowledge of parasitology.

The author is entitled to speak with authority and he has presented his subject comprehensively yet concisely. Without pretense of being encyclopedic there is a mass of information in this book in concentrated form. Moreover, the author has put some of his own enthusiasm into it and made most interesting reading of it. Following an historical introduction and remarks on the general characteristics of parasites, there are chapters in which the various genera and species of the protozoa and metazoa are described in detail. There are also two excellent chapters on parasitic fungi. The book contains a large number of excellent illustrations, many in color.

E. B. SMITH.

EATING TO LIVE LONG.

EATING TO LIVE LONG. By William Henry Porter, M. D. With an Introduction by Edwin F. Bowers, M. D. Chicago, Reilly & Lee Co., 1920. 243 pages. 12mo. Cloth, $1.50.

This little book of 243 pages on dietetics has the merit of originality. It is written by a physician of great experience in both hospital and private practice. His ideas have been expressed in various journal articles before they appeared in book form.

It is surprising that there is probably more confusion in the theory and practice of dietetics than in any subject in practical medicine. It is a well known fact that scarcely any two writers on this subject agree on the selection of a diet suitable for any given diseased condition. Consequently, there have been promulgated a great variety of theories concerning diet.

Dr. Porter is a writer of positive opinions, and does not hesitate to differ with his confreres on the subject of dietetic treatment of disease. In fact his teaching is so opposed to the usually accepted ideas that they seem revolutionary. His fundamental idea is that the most common cause of disease, outside of the infections, is intestinal autointoxication or fermentations: that these cause underoxidation; the underoxidation products irritate the intestinal mucosa and after absorption, irritate the kidney structure and produce Bright's disease, rheumatism, gout, heart disease, etc.

His diet for these conditions is essentially a mixed diet of meats, milk, whole wheat bread, butter and eggs. "All fruits, whether raw or cooked should be tabooed; also, all cereal breakfast foods, nuts, sweets, pastries of all kinds, potatoes in all forms, onions, tomatoes, turnips, parsnips, carrots, celery, radishes, cabbage, corn, egg plant and oyster-plant."

Oatmeal he says is "one of the poorest sources of nutriment a man can put into his stomach."

All soups and rich gravies are to be avoided.

In the treatment of Bright's disease he advocates the use of a moderate amount of red meat and eggs, with a limited amount of milk or other fluids. It will be seen that the use of red meats, and the prohibition of fruits, starches and most of the common vegetables is opposed to the usual practice. The reputation and long experience of the Author as a clinician, leads one to have respect for his views, in spite of their being radical. In common with most other clinicians of long experience, Dr. Porter is a strong advocate of alcohol in most infectious diseases, especially in pneumonia, diphtheria, and other serious conditions.

The book is very readable and is recommended to every physician who wishes to broaden his views on dietetics.

E. H. B.

THE DUODENAL TUBE.

THE DUODENAL TUBE AND ITS POSSIBILITIES. By Max Einhorn, M. D. Phila. and London, W. B. Saunders Company, 1920. 122 pages. 51 illustrations. 8vo. Cloth, $2.50.

This is a practical little book describing all that has been accomplished by the author with the use of the duodenal tube, and giving a concise and conservative description of the work of others in this field. In addition to describing in detail the technique for the use of the tube and for the examination of duodenal contents in diagnosis of diseases of the duodenum, pancreas and bile tract, the author gives an idea of the therapeutic uses to which the tube can be put.

There is also a chapter relating to the use of some other less valuable instruments invented by the author, such as the pyloric dilator and intestinal delineator. A chapter on the "Practical Value of the Use of These Instruments" gives an admirable, safe and sane resume of their limitations.

The book can be recommended as a valuable reference handbook.

A. F. R. A.

PRACTICAL MEDICINE SERIES.

THE PRACTICAL MEDICINE SERIES comprising eight volumes on the year's progress in medicine and surgery. Under the General Editorial

Charge of Charles L. Mix, A. M., M. D. Series 1920, Volume 1, General Medicine, Edited by Frank Billings, M. S., M. D., with the collaboration of Burrell O. Raulston, A. B., M. D. Chicago, Year Book Publishers, 1920. 624 pages. Illustrated, 12 mo. Cloth, $2.50. (Subscription price for the eight volumes $12.00.)

This series of handbooks reviews the year's progress in Medicine and Surgery, and comprises eight volumes of which this one is the first.

Works of this kind are valuable in presenting to the busy physician a synopsis of current medical progress and literature which he could not compile himself without the expenditure of a great deal of both time and money.

The text is divided into sections as follows: Progress of Medicine, Infectious Diseases, Diseases of the Mediastinum, Diseases of the Bronchi and Upper Air Passages, Diseases of the Lungs and Pleurae, Diseases of the Heart and Blood-vessels, Diseases of the Blood and Blood-making Organs, Diseases of the Ductless Glands, Diseases of Metabolism, Diseases of the Kidney, Diseases of the Gastro-intestinal Tract, Diseases of the Liver and Gall-bladder, Diseases of the Pancreas, and Miscellaneous Diseases.

A year-book of this nature is absolutely essential to an efficient medical library, and the one here described is if anything better than the average.

W. H. Donnelly.

INFLUENZA.

INFLUENZA. A Discussion opened by Sir Arthur Newsholme, K. C. B., M. D. London & New York, Longmans, Green and Co., (1919). 102 pages, 8vo. Paper, $1.35.

This is a brochure setting forth a discussion on Influenza at a meeting of the Royal Society of Medicine held in London, November 13, 1918.

The discussion was opened by Sir Arthur Newsholme who is widely known in this country as an authority on matters of public health and epidemiology. The other speakers, in addition to many prominent British physicians, civilian as well as army and navy, also included several of the officers of the Medical Corps, United States Army. Of the American officers taking part in the meeting one notes the names of General W. S. Thayer, Capt. J. G. Hopkins, Capt. Graham, Colonel Longcope, Major Fred. M. Meader.

Inasmuch as when the papers were prepared the World War was in active progress, therefore, naturally, the military side of the problem of influenza was the main theme of discussion.

Not much new light was thrown on the subject, even the etiological bacteriology being in an uncertain state, most of the speakers apparently looking upon the b. influenzae as the primary infective organism with frequent secondary infections which caused the complications of the disease.

As to treatment it was agreed from a military standpoint that the patients were best treated where they were taken ill; in other words the main things were to provide good quarters, good food and good nursing with an avoidance of travel by the patient. The vaccine treatment had its friends and its enemies and no drug was found to be of any real specific value.

W. H. Donnelly.

BOOKS RECEIVED.

Books received for review are acknowledged promptly in this column; we asume no other obligation in return for the courtesy of those sending us the same. In most cases review notices will be promptly published shortly after acknowledgment of receipt has been made in this column.

PHYSIOLOGY AND BIOCHEMISTRY IN MODERN MEDICINE. By J. J. R. Macleod, M. B. Assisted by Roy G. Pearce, A. C., Redfield, and N. B. Taylor and by others. Third Edition. St. Louis, C. V. Mosby Company, 1920. 992 pages, with 243 Illustrations, including 9 Plates in Colors. 8vo. Cloth, $10.00.

AMERICAN MEDICAL BIOGRAPHIES. By Howard A. Kelly, M. D., LL. D., F. A. C. S. Hon. F. R. C. S. (Edin.) and Walter L. Burrage, A. M., M. D., Baltimore, Norman, Remington Company, 1920. 1320 pages. Royal 8vo.

REFRACTION AND MOTILITY OF THE EYE with Chapters on Color Blindness and the Field of Vision. By Ellice M. Alger, M. D., F. A. C. S. Second Revised Edition. Phila., F. A. Davis Company, 1920. 394 pages, with 125 illustrations. 12mo. Cloth, $2.50.

AN INTRODUCTION TO BACTERIOLOGY FOR NURSES. By Harry W. Carey, A. B., M. D. Second Revised Edition. Phila., F. A. Davis Company, 1920. 149 pages, Illustrated. 12mo. Cloth, $1.25.

SHORT TALKS ON PERSONAL AND COMMUNITY HEALTH. By Louis Lehfreld, A. M., M. D. Phila., F. A. Davis Company, 1920. 271 pages. 12mo. Cloth, $2.00.

PRACTICAL MASSAGE AND CORRECTIVE EXERCISES WITH APPLIED ANATOMY. By Hartvig Nissen. Fourth Revised Edition. Phila., F. A. Davis Company, 1920. 225 pages, Illustrated. 12mo. Cloth, $2.00.

ORGANIC CHEMISTRY FOR MEDICAL, INTERMEDIATE SCIENCE AND PHARMACEUTICAL STUDENTS. By A. Killen Macbeth, M. A., D. Sc., F. I. C., etc. New York and London, Longman's, Green and Co., 1920. 235 pages, Illustrated. 12mo. $2.00.

DIABETES; A HANDBOOK FOR PHYSICIANS AND THEIR PATIENTS. By Philip Horowitz, M. D. New York, Paul B. Hoeber, 1920. 196 pages. Illustrated. 12mo. Cloth, $2.00.

HEALTH AND SOCIAL PROGRESS. By Rudolph M. Binder, Ph. D. Professor of Sociology, New York University. New York, Prentice-Hall, Inc., 1920. 295 pages. 12mo. $3.00.

YOURS FOR SLEEP. By William S. Walsh, M. D. New York, E. P. Dutton and Company, 1920. 274 pages. 12mo. $2.50.

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